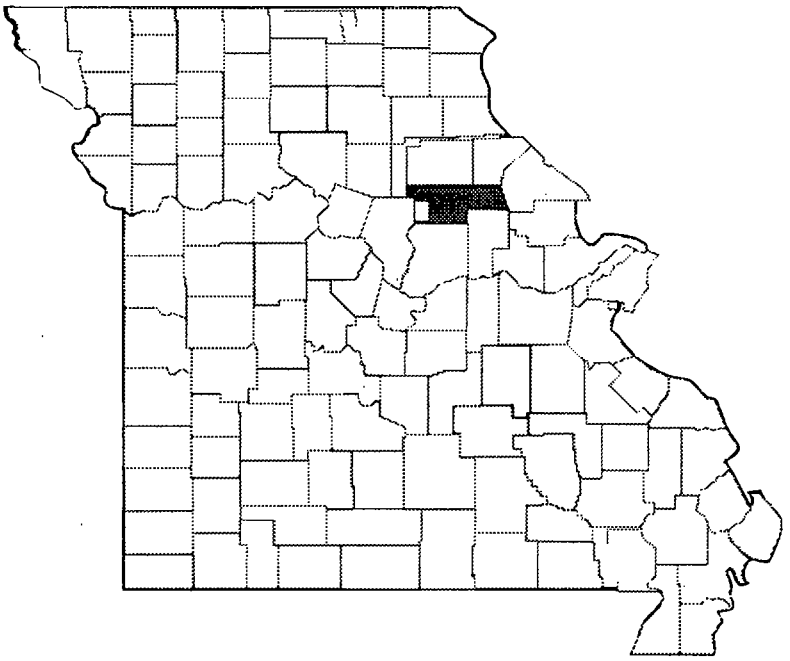
PRELIMINARY ASSESSMENT/ REMOVAL SITE EVALUTAION REPORT

Mexico FMGP Site
Audrain County, Missouri

121728

September 15, 2000



Missouri Department of Natural Resources
Division of Environmental Quality
Hazardous Waste Program

Narrative

Mexico FMGP
Preliminary Assessment/ Removal Site Evaluation
CONTENTS

DATE: September 15, 2000

PREPARED BY: Kimberlee D. Foster
Missouri Department of Natural Resources

SITE: Mexico FMGP
Audrain County, Missouri

C.A. NUMBER: V997381-00-0

EPA ID NUMBER: MOSFN0703558

1.0 INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Missouri Department of Natural Resources (DNR), through a cooperative agreement with the U.S. Environmental Protection Agency (EPA), conducted a combined Preliminary Assessment/ Removal Site Evaluation (PA/RSE) at the Mexico Former Manufactured Gas Plant (FMGP) site in Audrain County, Missouri. The purpose of this investigation was to collect sufficient information concerning conditions at the site to assess the threat posed to human health and the environment, and to determine the need for a removal action under CERCLA/SARA or other authority.

The DNR's Hazardous Waste Program (HWP) completed a Pre-CERCLIS Site Screening (SS) for the Mexico FMGP on December 28, 1999. The SS concluded that additional investigation and environmental sampling to further delineate the extent of soil contamination were warranted.

The scope of the PA/RSE investigation included reviewing file information, sampling of environmental media, and collecting non-sampling information. Investigation included a site visit on July 14, 2000 and a sampling event on August 9, 2000.

2.0 SITE DESCRIPTION

2.1 Location

The Mexico FMGP is located at the intersection of South Western and High Streets in the city of Mexico, Missouri. The site can be reached from the intersection of US-54 and Clark Street (Business 54) by following Clark Street north to Boulevard, traveling west on Boulevard for approximately two blocks to South Western Street, and then traveling north to High Street. The site is situated to the northeast of the intersection of South Western and High Streets, just south of the railroad tracks.

area that contains railroad ties and various patches of vegetation (Photograph 2) (Reference 8).

To the west of the site is a paved area identified during the SS investigation as being a "driveway with tar-like staining". After several conversations with the City of Mexico engineers, it was determined that this area is the remains of the former extension of Liberty Street; which extended west of Muldrow Street and intersected South Western Street, just northeast of the Mexico FMGP site. The small section of Liberty Street, to the east of Muldrow Street, was closed when an underpass for the nearby railroad was built for Muldrow Street. At that time, the small section (less than one block) of Liberty street that remained to the east of Muldrow Street was abandoned and a guardrail was placed at its intersection with Muldrow Street (see file photograph 4). DNR personnel determined that the "tar-like staining" on the surface of the former Liberty Street was due to the old, decaying road asphalt, rather than from any FMGP process or waste (Reference 8).

To the south of the former Liberty Street section is a grassy area, which is believed to be the location of the former cooling/ settling ponds depicted on historical Sanborn maps. The grassy area is located to the west of South Western Street, just north of the Martinsburg Bank and Trust facility.

2.3 Operational History (as taken from Reference 4, pp.3-4)

According to historical information about Audrain County, the gas plant began operations in 1885. On March 20, 1887, the Mexico Electric Light, Heat & Power Company was incorporated to take over the electric distribution system.

In 1894, the gas plant is depicted on a Sanborn map as a small plant consisting of one main building roughly 5,000 square feet in size. The eastern half of the building consisted of two horizontal boilers; the western half contained the engine and electrical generator (dynamo) room. A spur of the railroad bordered the northern wall of the main building. A small tool repair shop was located just south of the main building.

Between 1899 and 1908, the plant expanded considerably. The 1908 Sanborn map shows that the main building now included three horizontal boilers, at least three engines of varying horsepower, gas generators, and a coke room. A tar well was present south of the coke room. Two gas holders, one large and one small, are shown near the intersection of S. Western and High Streets. It is not clear whether the gas holders were in use at this time, since there are no markings to indicate their capacity.

In 1910, the firm was operating under the name Mexico Power Company. By 1914, the plant consisted of the electric, light, heating, gas plant, and water works. The 1914 Sanborn map indicates that a fourth horizontal boiler had been added within the main

Union Electric and Central Illinois Power Company, Inc. merged to form Ameren Corporation. As a result of this merger, Union Electric is now known as Ameren UE.

2.4 Previous Investigations

Pre-CERCLIS Site Screening

A Pre-CERCLIS Site Screening was completed for the Mexico FMGP on December 28, 1999 by the DNR's Hazardous Waste Program. The purpose of the SS was to determine whether the site was eligible for entry onto CERCLIS, EPA's inventory of potential hazardous substance sites that are evaluated under CERCLA authority. SS sampling data, collected on December 2, 1999, indicated that a portion of subsurface soil at the site was contaminated with hazardous substances associated with the former gas plant operations. Semi-volatile organic compounds known as polycyclic aromatic hydrocarbons (PAHs) were detected in five of the seven samples. Where detected, the amount of PAHs ranged from 0.33 to 220 ppm. Five carcinogenic PAHs were detected on-site at levels that exceed applicable site screening levels: benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene. PCBs were not detected in any of the samples (Refer to Table 3 of Appendix B for a summary of SS sampling results).

The SS concluded that additional sampling would aid in further delineating the extent of soil contamination. The SS recommended surface soil samples be collected to assess the threat of soil exposure to workers on-site and subsurface soil sampling be conducted on the eastern side of the former gas holder. It was further recommended that sampling be conducted outside of the fenced site area, near the former settling/ cooling ponds to the west and near the stained soil area to the northeast. The site was listed onto CERCLIS on January 11, 2000.

2.5 Waste Characteristics

Much of the contamination encountered at FMGP sites usually originated from on-site disposal or from spills and leaks during site operations. Inappropriately closed vessels and tanks pose potential for continual release of oils, tars, and other fluids associated with the manufactured gas process. Above-ground vessels and tanks found at FMGP sites include fuel and by-product tanks, coolers, scrubbers, and precipitators. Below grade vessels include tar wells and tar-water separators. Gas holders, depending upon the age of the site, may be partially below grade or completely above grade. Contaminated water and non-salable sludge were often left in the bottom, then fill materials were placed in the pit (Reference 9, pp. 1, 4).

The primary contaminants of concern at the Mexico FMGP site are the potentially carcinogenic PAHs, which are constituents of coal tar. PAHs are formed during the incomplete burning of coal and other organic substances. There are more than 100

sampling inside the fenced area, as recommended during the SS investigation, was not feasible due to the location of the buried electrical grids.

A description of all sampling locations can be found in Reference 15, Table 1 and a description of each sample is listed in Reference 15, Table 2. The PA/RSE sampling map is shown as Figure 3 of Appendix A.

3.2 PA/RSE Analytical Results

All samples were submitted for base neutrals/acid extractables analyses. Instructions were relayed to analytical personnel that if any sample's total analyte results were 80% of twenty times the Toxicity Characteristic Leaching Procedure (TCLP) regulatory limit, TCLP analysis should be performed on that sample (Reference 15).

Surface Soils

PAHs were detected in all seven of the surface samples (0-6 inch depth below ground surface, bgs) collected. Where detected, the amount of PAHs ranged from 0.26 to 14.0 ppm. For actual concentrations and comparison to regulatory levels, please refer to Table 1 of Appendix B.

The majority of surface soil contamination appears to be inside the fenced area of the site (near the location of the currently active electrical substation). This area of contaminated surface soil contains four carcinogenic PAHs that are present at concentrations slightly greater than the EPA Region 9 Preliminary Remediation Goals (PRG) for industrial soil; but only two of which (benzo(a)pyrene and dibenz(a,h)anthracene) are at levels above the Missouri Any-Use Soil Level (ASL).

The contaminated surface soil located to the northeast of the fenced area, just south of the railroad, contains two carcinogenic PAHs (benzo(a)pyrene and dibenz(a,h)anthracene) at concentrations above the ASLs; however, only benzo(a)pyrene is present at levels that exceed the PRG for industrial soil.

The third area of contaminated surface soil is located to the west of South Western street. This area had only minor detections of PAHs, with only one carcinogenic PAH, benzo(a)pyrene, present at a concentration above the PRG for industrial soil. No PAHs were detected in this area at levels that exceeded the ASL.

It should also be noted that the five carcinogenic PAHs mentioned above were also present above the Superfund Chemical Database Matrix (SCDM) Cancer Risk Screening Levels. However, these cancer-risk, screening levels are conservatively calculated to estimate maximum acceptance levels for daily intake exposure for a particular substance.

Pleistocene loess deposits. The soils are moderately well-drained with low permeability.

Glacial deposits: The Keswick Soil Series is typically underlain by either loess or till. In some localities, a paleosol is found between glacial deposits and the modern soil. Loess deposits are well-sorted and made up of silt and clay. Till is highly variable in composition and can be composed of clay, silt, sand, or gravel. Paleosols are discontinuous and are poorly developed with compositions similar to the material upon which they formed.

Pennsylvanian units: Pennsylvanian-age deposits include the only bedrock units exposed at the surface in the Mexico area. Outcrops are limited mostly to shallow roadside ditches and stream bottoms; however, a few good exposures of the highest Pennsylvanian strata are present in the walls of mined clay pits. These exposures consist mostly of interbedded limestones and shales from the Cherokee Group. Well logs for the area show that sandstone and coal beds are also common and indicate a total thickness of about 30 feet for Cherokee Group deposits. At the base of the Pennsylvanian are isolated pockets of refractory clays, which make up the Cheltenham Formation. These can be up to 55 feet in thickness and are believed to have been deposited within depressions developed over the upper surface of the Burlington-Keokuk Limestone. Lateral groundwater flow is probably small and restricted to the upper surfaces of sandstone and limestone beds. Vertical movement along fractures is slow but apparently of sufficient quantity to recharge the underlying aquifers.

Burlington-Keokuk Limestone: The Burlington and Keokuk Limestones are lithologically similar and are undifferentiated in published reports for this region. These units consist primarily of medium- to coarsely crystalline crinoidal limestone and are approximately 150 feet in thickness. Cherty zones one to ten feet thick are scattered throughout the units and shale beds can be found in the upper portion. These units are extensively fractured and contain a well-developed network of solution channels, which leads to high porosity and permeability. The cherty horizons can act locally as a partial barrier to vertical water movement.

Chouteau Group: Approximately 120 feet of finely-crystalline argillaceous limestone and cherty limestone containing abundant invertebrate fossils and common shale interbeds make up the undifferentiated Chouteau Group. The Chouteau Group is fractured and contains solution channels, but not to the extent of the overlying Burlington-Keokuk Limestone.

Cedar Valley Limestone: The Cedar Valley Limestone is around 90 feet in thickness and composed of finely- to coarsely-crystalline limestone with interbedded sandstone and, occasionally, shale beds.

Derby-Doerun Dolomite: The Derby Doerun Dolomite is 325 feet thick and composed primarily of silty dolomite with dolomitic siltstone in the lower 45 feet. No information was found pertaining to local porosity and permeability characteristics.

Davis Formation: The Davis Formation is 160 feet thick and consists of interbedded shale, siltstone, fine-grained sandstone, dolomite, and conglomerate. No information was found pertaining to local porosity and permeability characteristics; however, due to high shale content, the Davis Formation is generally considered as an aquitard.

Bonneterre Formation: The Bonneterre Formation is 325 feet thick and composed mostly of dolomitic limestone. Shaly to silty dolomite and siltstone beds are common in the upper part of the formation. No information was found pertaining to local porosity and permeability characteristics.

Lamotte Sandstone: The Lamotte Sandstone is 245 feet thick and consists mostly of medium- to coarse-grained sandstone with scattered pebbly zones.

Precambrian units: Igneous and metamorphic rocks of Precambrian age make up the basal confining unit for the Cambrian-Ordovician Aquifer.

Geologic Structures

Bedrock structure is largely masked in the Mexico area by a relatively thick mantle of Quaternary glacial material; therefore, structural interpretations are based on well log data, scattered outcrops along stream cuts, and man-made excavations. This part of Missouri is dominated by broad, large-scale anticlines and synclines with mostly northwest-southeast orientations and very gentle dips. Local topography suggests that the strata in this area are nearly flat-lying. Mexico is located between the Lincoln Fold to the northeast and a structural high formed by the College Mound-Bucklin, Davis Creek, and Auxvasse Creek Anticlines to the southwest. The site itself is in an area that forms part of a trend associated with the Macon-Sullivan Trough and Mineola Structure. A local, anomalous structure, the Mexico Anticline, trends northeast-southwest and runs directly beneath the center of the town of Mexico. This appears to be a small-scale feature that has been superimposed on the larger structure. A dip of 2° to the southeast was measured in a clay pit near the crest of the anticline just northeast of the town. No faulting has been reported in the region.

Aquifers and Groundwater Flow Direction

The shallowest aquifer near the Mexico FMGP is unconsolidated and contained within glacial deposits that vary greatly in grain size both vertically and horizontally. Thus, water-bearing bodies will consist of isolated "pods" with little or no interconnection. Depending upon the local permeability of the overlying material and elevation of the

The City of Mexico municipal water system (Missouri American Water Company) operated a total of five wells during the 1999 calendar year (References 18 and 19). All five wells are located within two miles of the Mexico FMGP. It is estimated that the City of Mexico municipal system supplies water to approximately 11,414 people (Reference 20 and 21).

In addition to the City of Mexico municipal wells, the DGLS reports that five other community public wells exist within four miles of the Mexico FMGP. However, no information could be obtained regarding the community public wells reportedly owned by: Baker Packing Co., Coca Cola Bottling Co., J.J. Affutt, Audrain County Farm, and Carter Farm (Reference 20). For the purposes of this report, it is assumed that these five wells are no longer in use.

There are an estimated 27 private or domestic wells within four-miles of the Mexico FMGP site. At 2.35 persons per household (the average for Mexico, MO), this equates to 63 people using private wells (Reference 22, p. 150). Table 1, below, shows the drinking water populations served by groundwater within the distance categories.

Table 1: Population Served by Wells Within Distance Categories

Distance (in Miles)	Number of Private Wells	People Served by Private Wells	Number of Public Wells	People Served by Public Wells	Total People Served
0 to 1/4	4	9	1	2283	2292
>1/4-1/2	2	5	1	2283	2288
>1/2-1	2	5	2	4565	4570
>1 to 2	9	21	1	2283	2304
>2 to 3	6	14	0	0	14
>3 to 4	4	9	0	0	9
Totals	—	63	—	11,414	**11,477**

4.3 Groundwater Conclusions

A release of hazardous substances to groundwater is not suspected at the Mexico FMGP site. Any contamination in the subsurface that could potentially migrate to the shallowest aquifer would be contained in the varying 'pods' that form in the glacial deposits near the site. These pod type structures are not interconnected and do not yield a significant quantity of water. It is unlikely that contamination from the site would reach the Mississippian or the Cambrian-Ordovician aquifers, as they are greater than 90 feet below the site and are overlain by the Pennsylvanian confining unit.

The total population served by groundwater within four miles of the site is estimated at 11,477. However, all of the wells identified are drawn from either the Mississippian or

Fisheries
The South Fork of the Salt River is a fishery and is designated for protection of human health-fish consumption and for livestock and wildlife watering under the Clean Water Act. In addition, the South Fork of the Salt River is designated for boating and canoeing (Reference 23, p. 97).

Sensitive Environments
The South Fork of the Salt River contains a variety of wetlands within 15 miles downstream of the Mexico FMGP site (Reference 24). Streams and canals in Audrain County are known to support both the Ghost Shiner (Notropis Buchanani) and the Blacknose Shiner (Notropis Heterolepis); both of which are imperiled in Missouri due to rarity or vulnerability of extirpation from the state (Reference 25).

5.3 Surface Water Conclusions

A release of hazardous substances to surface water was not suspected during the SS investigation; therefore, no surface water target samples were collected during the PA/RSE investigation. The drainage from the site is intercepted by a storm drain, which empties into the South Fork of the Salt River. The South Fork of the Salt River is known to contain fisheries and wetland areas; however, a release of site contaminants to the surface water pathway is not expected at this time.

There are no drinking water intakes known to exist within 15 miles downstream of the site.

6.0 SOIL EXPOSURE AND AIR PATHWAYS

6.1 Physical Conditions

The majority of the site surface is covered with gravel and fill material. Some brick and concrete rubble also exists. The natural soil group in the area is the Keswick Series. Keswick soils can be up to ten feet in thickness and are composed primarily of silt loam developed in Pleistocene loess deposits. The soils are moderately well-drained with low permeability.

6.2 Soil and Air Targets

A chain-link fence topped with barbed wire restricts access to the majority of the site. The areas not fenced are the grassy lot to the west of South Western Street and the area to the north of the fence, just south of the railroad. No wastes are visible on the surface of the site. Currently, no workers regularly report to the site; however, workers periodically visit the Ameren UE property to retrieve stored equipment. The grassy lot to the west of South Western Street has the potential for passersby due to the proximity to

which has a facility and parking area located to the south of the grassy lot. This area is not fenced and access is not restricted; however, it is unlikely that passersby (including bank customers) will frequent the grassy lot.

7.0 SUMMARY AND CONCLUSIONS

The Mexico FMGP site is a former manufactured gas plant located at the intersection of South Western and High Streets in the city of Mexico, Missouri. The site area is roughly rectangular, measuring approximately 200 feet by 300 feet, and is situated in mixed residential and commercial area of the city. The site is currently owned and operated by Ameren UE as an active electrical substation. Present on site are a small shed along the western fence, storage building in the southeast corner of the property, and the active electrified substation. The majority of the surface area of the site is covered by gravel fill material and is surrounded by a barbed-wire fence.

The manufactured gas plant operated at the site from approximately 1885 until 1941. The site was first owned and operated by the Mexico Electric Light, Heat & Power Company. A series of buyouts and name changes resulted in the Missouri Power and Light Company, which was merged with its parent company, Union Electric Company, in 1983. Union Electric Company is now known as Ameren UE. After gas manufacturing operations ceased, many of the above ground structures were removed; however, the primary gas plant building was still intact until approximately 1997, when the building was demolished and buried mostly in place.

In 1999, the DNR's HWP completed a Pre-CERCLIS Site Screening for the Mexico FMGP. The SS concluded that the site was eligible for further CERCLA investigation and that environmental sampling to further delineate the extent of soil contamination were warranted.

PA/RSE sampling data documents coal tar residuals present in the surface and portions of the subsurface soils on-site. The three areas of soil contamination are the fenced portion of the site (Ameren UE's substation), the area to the northeast of the fence (just south of the railroad), and the grassy lot to the west of South Western Street (north of Martinsburg Bank and Trust). Each of these areas have documented the presence of carcinogenic PAHs at levels that exceed either the PRG for industrial soil or the SCDM health-based benchmarks; however, only benzo(a)pyrene and dibenz(a,h)anthracene have been detected at levels that exceed the Missouri ASL.

Of the three areas of soil contamination identified, the grassy lot to the west of South Western Street has the most potential for exposure due to lack of restricted access. However, this area is not likely to be frequented neither by the nearby population nor by bank customers of Martinsburg Bank and Trust. In addition, the levels of contamination identified in the surface soils of the grassy lot are below the ASL (except for

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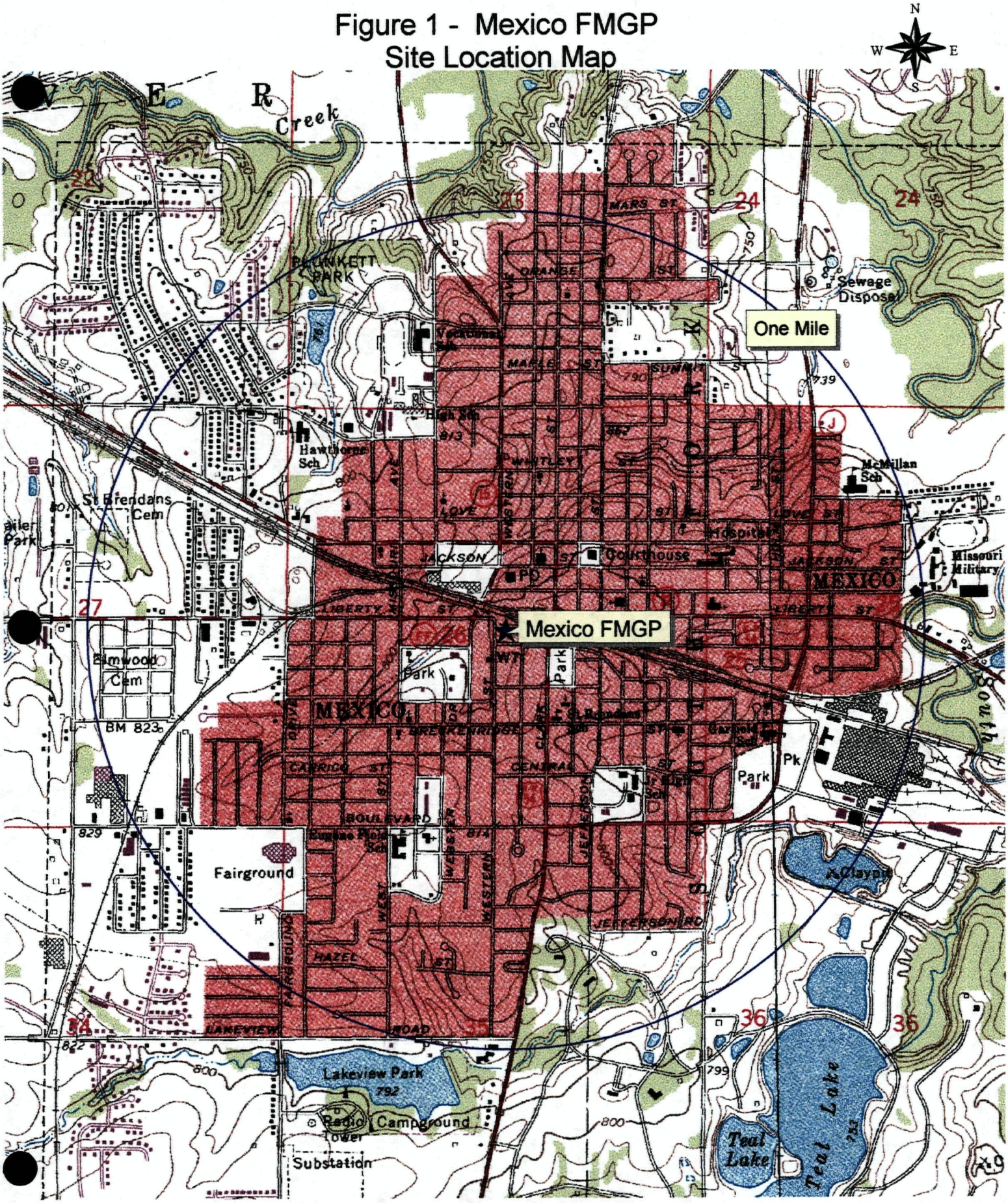
Appendix A:

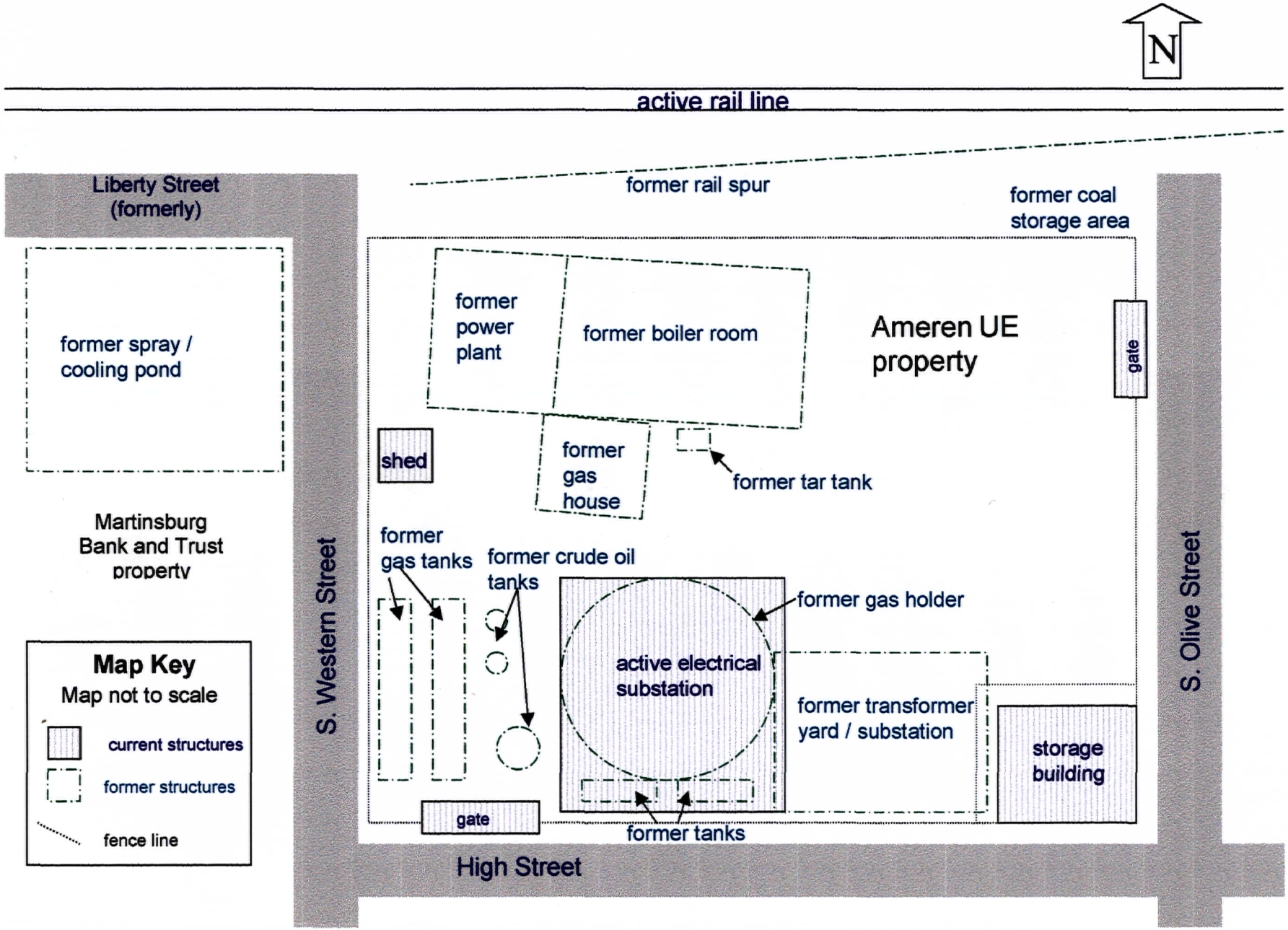
Figure 1. Site Location Map
Figure 2. Site Sketch
Figure 3. Site Sampling Location Map
Figure 4. Aquifer Stratigraphy and Hydrology

Figure 1 - Mexico FMGP Site Location Map



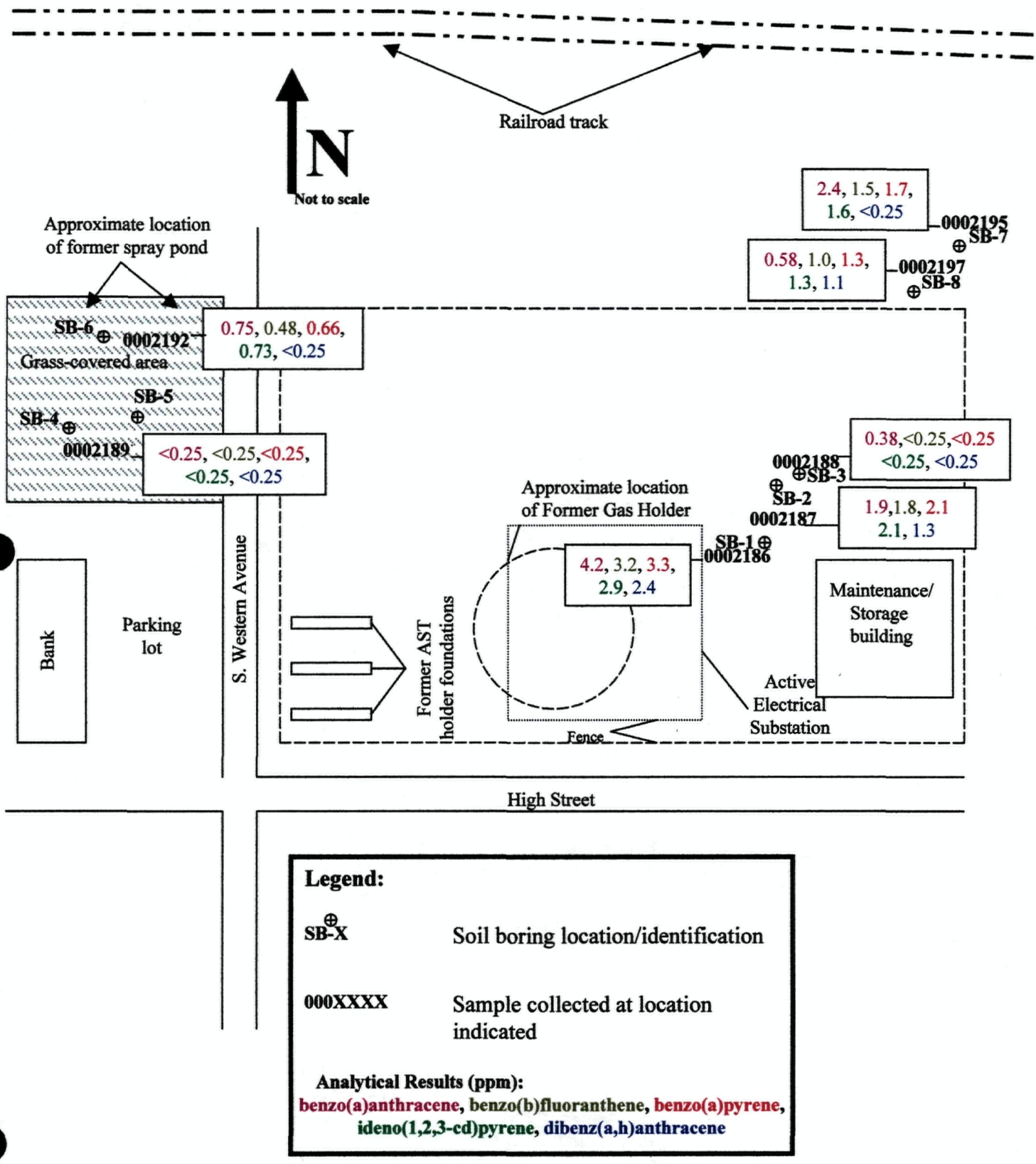
Taken from USGS 7.5 Minute Topographic Quadrangle Maps for Mexico East, Mo. and Mexico West, Mo. Both maps are dated 1972, photorevised 1984.

Figure 2 – Mexico FMGP
Site Sketch



Mexico FMGP
Mexico , Missouri
PA/RSE
FIGURE 3

Mexico FMGP
Select Analytical Results for Surface Soils



Legend:

SB-X	Soil boring location/identification
000XXXX	Sample collected at location indicated

Analytical Results (ppm):
benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, dibenz(a,h)anthracene

Mexico FMGP
Mexico , Missouri
PA/RSE
FIGURE 4

Table 1: Aquifer Stratigraphy and Hydrology

System	Stratigraphic Unit	Thickness (feet)	Lithology	Nature of Porosity and Permeability	Hydraulic Conductivity (feet/second)	Average Yields (GPM)	Hydrologic Unit
Quaternary	Keswick Series	0 - 10	Silt loam	Low	Vertical: $1.3x10^{-10}$	Probably none	Unconsolidated Aquifer
	Loess	50	Clay and silt				
	Glacial drift		Clay, silt, sand, and gravel	Highly variable dependent on local lithology		Variable	
Pennsylvanian	Cherokee Group undifferentiated	30	Mostly limestone with interbedded shale and coal	Highly variable dependent on lithology		Low, restricted mostly to thin sandstones	Pennsylvanian Confining Unit
	Cheltenham Formation	0 - 55	Interbedded sandstone, shale, coal, and limestone				
Mississippian	Burlington-Keokuk Limestone	150	Limestone, chert, and shale	Highly fractured and well-developed solution channels	$1.0x10^{-4}$ - $1.5x10^{-3}$	Less than 15	Mississippian Aquifer
	Chouteau Group undifferentiated	120					
Devonian	Cedar Valley Limestone	90	Limestone, some sandstone and shale	Vertical leakage to Cambrian-Ordovician Aquifer	Vertical: $7.7x10^{-11}$	None	Devonian Confining Unit
Ordovician	Joachim Dolomite	15	Dolomite		Lateral: $6.0x10^{-5}$ - $1.0x10^{-4}$	Insignificant	Cambrian-Ordovician Aquifer
	St. Peter Sandstone	95	Sandstone	Moderate to high intergranular		Up to 25	
	Everton Formation	30	Interbedded dolomite, sandstone, and shale	Low to moderate vertical permeability related to fracturing, low porosity		Insignificant	
	Powell Dolomite	0	Interbedded dolomite, chert, and shale	Moderate to high laterally along bedding surfaces but restricted vertically because of thin shale beds.		Minor	
	Cotter Dolomite	240	Interbedded dolomite, sandstone, chert, and shale				
	Jefferson City Dolomite	150				Up to 25	
	Roubidoux Formation	105	Interbedded dolomite, sandstone, chert, and shale	Moderate to high vertically and laterally due to fracturing and bedding plane dissolution and to moderate to poor cementation in sandstones		50 - 200	
	Gasconade Dolomite	205	Interbedded dolomite, chert, and sandstone	High intergranular porosity and permeability in Gunter Sandstone Member at base		300 - 500	
Cambrian	Eminence Dolomite	90	Massive, medium-grained dolomite	High because of well developed solution channels		25 - 700	
	Potosi Dolomite	45	Massive, medium-grained dolomite	High because of well developed solution channels		Up to 400	
	Derby-Doerun Dolomite	325	Silty dolomite and dolomitic siltstone	Low permeability		Not penetrated	
	Davis Formation	160	Interbedded dolomite, shale, siltstone, and limestone				
	Bonneterre Dolomite	325	Interbedded limestone, dolomite, and siltstone				
	Lamotte Sandstone	245	Medium to coarse sandstone				
Precambrian	Undifferentiated	unknown	Igneous and metamorphic				Precambrian Confining Unit

Data is from McQueen (1943); Seanght (1969); Gann et al. (1971); Howe et al. (1972); Emmett and Imes (1984); Young and Geller (1995); MDNR/DGLS well log records, and site visit (7/26/00).

Appendix B:

Table 1: Analytical Results for Surface Soils
Table 2: Analytical Results for Subsurface Soils
Table 3: Site Screening Soil Sampling Data

Table 1. Mexico FMGP- Analytical Results for Surface Soils

Select Soil Sampling Data

Samples Collected by DNR on August 9, 2000.

All values in parts per million (ppm).	*SB-1 #0002186*	*SB-2 #0002187*	*SB-3 #0002188*	*SB-4 #0002189*	*SB-6 #0002192*	*SB-7 #0002195*	*SB-8 #0002197*	***ASL*[1]**	***PRG*[2] Ind.**	***SCDM*[3]**	
										Reference Dose	**Cancer Risk**
Depth of Sample:	*0-6 inches*	*0-6 inches*	*0-6 inches*	*0-6 inches*	*0-6 inches*	*0-6 inches*	*0-6 inches*				
SVOCs and VOCs											
Napthalene	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	230	190	3,100	NA
2-Methylnaphthalene	**0.35**	**0.31**	<0.25	<0.25	<0.25	**0.35**	**0.33**	NA	NA	NA	NA
Isophorone	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	5,300	2,600	16,000	670
Benzoic Acid	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	100,000	310,000	NA
Dibenzofuran	**0.38**	**0.26**	<0.25	<0.25	<0.25	**0.30**	**0.26**	NA	5,100	NA	NA
PAHs											
Acenaphthylene	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	NA	NA	NA
Acenaphthene	**0.37**	<0.25	<0.25	<0.25	<0.25	**0.27**	<0.25	3,400	38,000	4,700	NA
Fluorene	**0.49**	<0.25	<0.25	<0.25	<0.25	**0.34**	<0.25	2,300	33,000	3,100	NA
Phenanthrene	**5.4** **	**1.6**	<0.25	<0.25	**0.52**	**4.4**	**1.0**	NA	NA	NA	NA
Anthracene	**1.9**	**0.93**	<0.25	<0.25	<0.25	**1.3**	**0.35**	17,000	100,000	23,000	NA
Fluoranthrene	**14.0** **	**3.5**	**0.49**	**0.37**	**1.7**	**3.9**	**1.9**	2,300	30,000	3,100	NA
Pyrene	**8.8** **	**2.7**	<0.50	<0.50	**0.83**	**3.6**	**0.87**	1,700	54,000	2,300	NA
Benzo(a)anthracene	**4.2**	**1.9**	**0.38**	<0.25	**0.75**	**2.4**	**0.58**	4.50	2.90	NA	0.88
Chrysene	**3.5**	**2.0**	**0.27**	<0.25	**0.51**	**1.4**	**0.75**	160	290	NA	88
Benzo(b)fluoranthene	**3.2**	**1.8**	<0.25	<0.25	**0.48**	**1.5**	**1.0**	4.00	2.90	NA	0.88
Benzo(k)fluoranthene	**3.0**	**1.8**	<0.25	<0.25	**0.41**	**1.2**	**1.1**	34	29	NA	8.80
Benzo(a)pyrene	**3.3**	**2.1**	<0.25	<0.25	**0.66**	**1.7**	**1.3**	0.68	0.29	NA	0.088
Ideno(1,2,3-cd)pyrene	**2.9**	**2.1**	<0.25	<0.25	**0.73**	**1.6**	**1.3**	12	2.9	NA	0.88
Dibenz(a,h)anthracene	**2.4**	**1.3**	<0.25	<0.25	<0.25	<0.25	**1.1**	0.62	2.90	NA	0.088
Benzo(g,h,i)perylene	**3.8**	**1.9**	<0.25	<0.25	**0.46**	**0.85**	**0.74**	NA	NA	NA	NA

** These parameters exceeded calibration range; sample was diluted to obtain these values.

NA represents "not analyzed" or "not applicable".

Values in bold exceed detection limit.

Shaded values exceed the ASL or the PRG in addition to the SCDMvalues. Circled values exceed the SCDM value only.

[1] Missouri Any Use Soil Level, May 1996.

[2] EPA Region 9 Preliminary Remedial Goals (PRG) for Industrial (Ind.) Soil. 10/01/99

[3] Superfund Chemical Data Matrix, Data Version June 1996.

Table 2. Mexico FMGP- Analytical Results for Subsurface Soils

Select Soil Sampling Data

Samples Collected by DNR on August 9, 2000.

All values in parts per million (ppm).	*SB-4 #0002190*	*B-5 (Duplicate) #0002193*	*SB-5 #0002191*	*SB-6 #0002194*	*SB-7 #0002196*	*SB-8 #0002198*	***ASL*** [1]	***PRG*** [2]	***SCDM*** [3]	
									Reference Dose	**Cancer Risk**
Depth of Sample:	*3.5-4.0 feet*	*3.5-4.0 feet*	*3.5-4.0 feet*	*3.5-4.0 feet*	*3.5-4.0 feet*	*3.5-4.0 feet*		**Ind.**		
SVOCs and VOCs										
Napthalene	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	230	190	3,100	NA
2-Methylnaphthalene	**0.34**	<0.25	**0.25**	<0.25	<0.25	<0.25	NA	NA	NA	NA
Isophorone	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	5,300	2,600	16,000	670
Benzoic Acid	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	100,000	310,000	NA
Dibenzofuran	**0.26**	<0.25	<0.25	<0.25	<0.25	<0.25	NA	5,100	NA	NA
PAHs										
Acenaphthylene	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	NA	NA	NA
Acenaphthene	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	3,400	38,000	4,700	NA
Fluorene	**0.26**	<0.25	<0.25	<0.25	<0.25	<0.25	2,300	33,000	3,100	NA
Phenanthrene	**1.8**	<0.25	**0.26**	<0.25	<0.25	<0.25	NA	NA	NA	NA
Anthracene	**0.57**	<0.25	<0.25	<0.25	<0.25	<0.25	17,000	100,000	23,000	NA
Fluoranthrene	**2.5**	<0.25	**0.42**	<0.25	<0.25	<0.25	2,300	30,000	3,100	NA
Pyrene	**1.0**	<0.50	<0.50	<0.50	<0.50	<0.50	1,700	54,000	2,300	NA
Benzo(a)anthracene	**0.74**	<0.25	<0.25	<0.25	<0.25	<0.25	4.50	2.90	NA	0.88
Chrysene	**0.83**	<0.25	<0.25	<0.25	<0.25	<0.25	160	290	NA	88
Benzo(b)fluoranthene	**0.91**	<0.25	<0.25	<0.25	<0.25	<0.25	4.00	2.90	NA	0.88
Benzo(k)fluoranthene	**0.84**	<0.25	<0.25	<0.25	<0.25	<0.25	34	29	NA	8.80
Benzo(a)pyrene	**1.2**	<0.25	<0.25	<0.25	<0.25	<0.25	0.68	0.29	NA	0.088
Ideno(1,2,3-cd)pyrene	**1.4**	<0.25	<0.25	<0.25	<0.25	<0.25	12	2.9	NA	0.88
Dibenz(a,h)anthracene	**0.88**	<0.25	<0.25	<0.25	<0.25	<0.25	0.62	2.90	NA	0.088
Benzo(g,h,i)perylene	**0.79**	<0.25	**0.26**	<0.25	<0.25	<0.25	NA	NA	NA	NA

NA represents "not analyzed" or "not applicable".

Values in bold exceed detection limit.

Shaded values exceed the ASL and the PRG in addition to the SCDM values. Circled values exceed the SCDM value only.

[1] Missouri Any Use Soil Level, May 1996.

[2] EPA Region 9 Preliminary Remedial Goals (PRG) for Industrial (Ind.) Soil. 10/01/99

[3] Superfund Chemical Data Matrix, Data Version June 1996.

Table 3. Mexico FMGP - SS Soil Sampling Data
Samples Collected by DNR on December 2, 1999

Select Parameters *All values in parts per million (ppm)*	*997555* *SB-1* *25 feet west of gas holder, near crude oil tank*	*997556* *SB-1* *25 feet west of gas holder, near crude oil tank*	*997557* *SB-3* *near west edge of gas holder*	*997558* *SB-3* *near west edge of gas holder*	*997559* *SB-4* *gas holder, western portion*	*997560* *SB-4* *gas holder, western portion*	*997561* *SB-8* *east gate; east of gas works*	*EPA's SCDM Health-Based Benchmark* *1996*	*Missouri Department of Health Any-Use Soil Level* *1996*	*DNR's CALM Levels - Tier 1 Scenario A* *1998*
Depth of Sample (feet)	*3.5 - 4*	*5.5 - 6*	*3.5 - 4*	*5.5 - 6*	*3.5 - 4*	*6.5 - 7*	*3.5 - 4*			
POLYCHLORINATED BIPHENYLS (PCBs)										
PCBs (total)	ND	ND	ND	ND	ND	ND	ND	0.083	0.65	0.60
VOLATILE ORGANIC COMPOUNDS (VOCs)										
Total Xylenes	NA	NA	NA	0.078	NA	NA	NA	160,000.00	480.00	55.00
POLYCYCLIC AROMATIC HYDROCARBONS (SELECT PARAMETERS)										
N-Nitrosodiphenylamine	<0.25	<0.25	<0.50	**2.70**	<0.25	<0.25	<0.25	NA	1,000.00	3.03
Naphthalene	<0.25	<0.25	**3.00**	**0.75**	**40.00**	<0.25	<0.25	3,100.00	230.00	5.30
2-Methylnaphthalene	**1.70**	**2.50**	**3.30**	**0.54**	**42.00**	<0.25	<0.25	NA	NA	NA
Acenaphthylene	**2.70**	**1.30**	**3.60**	**3.40**	**14.00**	<0.25	<0.25	NA	NA	NA
Acenaphthene	**0.54**	**<0.25**	**9.60**	**12.00**	**3.10**	<0.25	<0.25	4,700.00	3,400.00	1,190.00
Dibenzofuran	**0.43**	**0.30**	**5.50**	**2.80**	**3.10**	<0.25	<0.25	NA	NA	NA
Fluorene	**3.40**	**1.30**	**14.00**	**9.70**	**13.00**	<0.25	<0.25	3,100.00	2,300.00	940.00
Phenanthrene	**9.40**	**3.90**	**150.00***	**13.00**	**39.00**	<0.25	<0.25	NA	NA	NA
Anthracene	**3.40**	**1.80**	**30.00**	**8.60**	**19.00**	<0.25	<0.25	23,000.00	17,000.00	16,700.00
Fluoranthene	**7.30**	**2.10**	**160.00***	**93.00***	**17.00**	<0.25	<0.25	3,100.00	2,300.00	600.00
Pyrene	**13.00**	**1.90**	**220.00***	**150.00***	**28.00**	<0.25	<0.25	2,300.00	1,700.00	2,110.00
Benzo(a)anthracene	**3.60**	**0.45**	**41.00**	**21.00**	**6.70**	<0.25	<0.25	0.88	4.50	1.10
Chrysene	**2.50**	**0.57**	**51.00**	**21.00**	**4.50**	<0.25	<0.25	88.00	160.00	36.00
Benzo(b)fluoranthene	**3.20**	**0.34**	**39.00**	**18.00**	**5.00**	<0.25	<0.25	0.88	4.00	0.94
Benzo(k)fluoranthene	**1.60**	**0.33**	**32.00**	**15.00**	**3.00**	<0.25	<0.25	8.80	34.00	8.00
Benzo(a)pyrene	**4.80**	**0.81**	**55.00**	**30.00**	**8.40**	<0.25	<0.25	0.088	0.68	0.16
Dibenz(a,h)anthracene	**0.59**	<0.25	**7.20**	**2.80**	**1.40**	<0.25	<0.25	0.088	0.62	0.15
Benzo(g,h,i)perylene	**1.10**	<0.25	**13.00**	**4.70**	**1.90**	<0.25	<0.25	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**0.90**	<0.25	**11.00**	**5.80**	**1.80**	<0.25	<0.25	0.088	0.68	0.16

ND = non-detect; NA = not analyzed or not applicable. * - Value is estimated. Bolded values were detected in concentrations greater than three times background level or were above background (if background is non-detect). Shaded values also exceed all applicable soil screening values used in the table.

Appendix C

Photographs

Photo 1. Mexico FMGP. View of site area taken northeast of the northeast corner of the fenced area. This area contains a small area of darkly stained surface soil. Taken by Kimberlee Foster, HWP, DNR on 7/14/2000 facing southwest.

Photo 2. Mexico FMGP. Debris pile located northeast of the site area, approximately 100 feet south of the railroad tracks. Taken by Kimberlee Foster, HWP, DNR on 7/14/2000 facing southwest.

Photo 3. Mexico FMGP. View of site area taken northeast of the northeast corner of the fenced area. The area of darkly stained surface soil is beneath the vegetation. Taken by Kimberlee Foster, HWP, DNR on 7/14/2000 facing southwest.

Photo 4. Mexico FMGP. View of former section of Liberty Street at its intersection with Muldrow Street, located to the west of the site area. Taken by Kimberlee Foster, HWP, DNR on 7/14/2000 facing west.

Photo 5. Mexico FMGP. View of grassy area and bank located south of the former Liberty Street and west of the site area. Taken by Kimberlee Foster, HWP, DNR on 7/14/2000 facing south.

RSE Form

SUPERFUND REMOVAL SITE EVALUATION
and
REMOVAL PRELIMINARY ASSESSMENT

I. SITE NAME AND LOCATION:

NAME: Mexico FMGP

ADDRESS OR OTHER LOCATION IDENTIFIER: South Western Street & High Street

CITY: Mexico	**STATE**: MO	**ZIP**: 65265

DIRECTIONS TO SITE: To reach the site from the intersection of U.S. 54 and Clark Street (Business 54), follow Clark Street north into town. At the intersection of Clark and Boulevard, take Boulevard west for about two blocks until you reach S. Western. Follow S. Western north until it intersects with the railroad. The Mexico FMGP site is located at the intersection of High Street and S. Western, just south of the railroad tracks.

MAP ATTACHED: ___

II. PROGRAM CONTACTS:

REQUESTED BY: Julie Kelsey	**DATE OF REQUEST**: 12/28/1999

AGENCY/OFFICE: MO Department of Natural Resources/ Hazardous Waste Program

MAILING ADDRESS: PO Box 176

CITY: Jefferson City	**STATE**: MO	**ZIP**: 65102
TELEPHONE: (573) 751-8629	**FAX**: (573) 751-7869	

EVALUATOR: Kimberlee Foster

AGENCY/OFFICE: MO Department of Natural Resources/ Hazardous Waste Program

MAILING ADDRESS: PO Box 176

CITY: Jefferson City	**STATE**:MO	**ZIP**: 65102
TELEPHONE: (573) 751-8629	**FAX**: (573) 751-7869	

III. REMOVAL SITE EVALUATION CRITERIA [40 CFR 300.410(e)]

IS THERE A RELEASE AS DEFINED BY THE NCP: **YES** X or **NO** _

EXPLAIN:
Coal tar residuals, resulting from the gas plant, have been detected on-site. Coal tar contains carcinogenic hazardous substances.

(A **RELEASE** is defined as any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment of barrels, containers, and other closed receptacles containing any hazardous substances or pollutant or contaminant), but excludes: workplace exposures; engine exhaust emissions; nuclear releases otherwise regulated; and the normal application of fertilizer. For purposes of the NCP, release also means threat of release.)

IS THE SOURCE A FACILITY OR VESSEL AS DEFINED BY THE NCP: **YES** X or **NO** _

EXPLAIN: The source is an FMGP, which meets the definition of a facility.

(A **FACILITY** is defined as any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or POTW), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft or any site or area, where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel. A **VESSEL** is defined as any description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water other than a public vessel.

SUPERFUND REMOVAL SITE EVALUATION
and
REMOVAL PRELIMINARY ASSESSMENT

III. REMOVAL SITE EVALUATION CRITERIA [40 CFR 300.410(e)](continued):

DOES THE RELEASE INVOLVE A HAZARDOUS SUBSTANCE, POLLUTANT, OR CONTAMINANT AS DEFINED BY THE NCP: **YES** X or **NO** __

EXPLAIN: Carcinogenic hazardous substances, such as benzo(a)pyrene and dibenz(a,h)anthracene, have been detected in soils on-site.

(A **HAZARDOUS SUBSTANCE** means any substance, element, compound, mixture, solution, hazardous waste, toxic pollutant, hazardous air pollutant, or imminently hazardous chemical substance or mixture designated pursuant to the CWA, CERCLA, SDWA, CAA or TSCA. The term does not include petroleum products, natural gas, natural gas liquids,liquified natural gas, synthetic gas or mixtures of natural and synthetic gas. The definition of **POLLUTANT or CONTAMINANT** includes, but is not limited to, anyelement, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into anyorganism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions or physical deformations, in such organisms or their ofspring. The term does not include petroleum products, natural gas, natural gas liquids, liquified natural gas, synthetic gas or mixtures of natural and synthetic gas.)

IS THE RELEASE SUBJECT TO THE LIMITATIONS ON RESPONSE: **YES** __ **or NO** X

EXPLAIN: The release does not meet the criteria for the limitations on response.

(The **LIMITATIONS ON RESPONSE** provisions of the NCP (40 CFR 300.400(B) states that removals shall not be undertaken in response to a release: ofa naturally occurring substance in its unaltered or natural form; from products that are a part ofthe structure of, and result in exposure within, residential buildings or business or communitystructures; or into public or private drinking water supplies due to deterioration ofthe system through ordinary use.)

DOES THE QUANTITY OR CONCENTRATION WARRANT RESPONSE: **YES**__ **or NO** X

EXPLAIN: Soil contamination has been identified in localized areas on-site. At this time, the contamination does not appear to be widespread throughout the site. Thus, the quantity of contamination is small. In addition, the concentrations detected for various carcinogenic PAHs are only slightly above the PRG levels and, in many samples, are not above the MO ASL.

HAS A PRP BEEN IDENTIFIED: **YES** X **or NO** __

EXPLAIN: Ameren UE is the current property owner and successor of the Mexico Light and Power Company

IV. CONDITIONS TO WARRANT REMOVAL [40 CFR 300.415(b)(2)]:

ACTUAL OR POTENTIAL EXPOSURE TO HAZARDOUS SUBSTANCES, POLLUTANTS, OR CONTAMINANTS: **YES** X **or NO** __

EXPLAIN: There is a potential for the nearby community and bank customers to be exposed to the contaminated soils in the surface soils. However, it is unlikely that any exposures would be long-term or repeated.

ACTUAL OR POTENTIAL CONTAMINATION OF DRINKING WATER SUPPLIES: **YES**__ **or NO** X

EXPLAIN: The potential for drinking water contamination is minimal due to the presence of the Pennsylvania Confining Unit beneath the site, above the shallowest drinking water (Mississippian) aquifer. In addition, the depth to groundwater is greater than 90 feet within 0.25 miles of the site.

SUPERFUND REMOVAL SITE EVALUATION
and
REMOVAL PRELIMINARY ASSESSMENT

IV. CONDITIONS TO WARRANT REMOVAL [40 CFR 300.415(b)(2)] (continued):

HAZARDOUS SUBSTANCES, POLLUTANTS, OR CONTAMINANTS IN DRUMS, BARRELS, OR BULK STORAGE CONTAINERS: YES__ or NO X

EXPLAIN: There are no drums, barrels, or bulk storage containers present.

HIGH LEVELS OF HAZARDOUS SUBSTANCES, POLLUTANTS, OR CONTAMINANTS IN NEAR-SURFACE SOILS: YES__ or NO X

EXPLAIN: Only two carcinogenic PAHs (benzo(a)pyrene and benz(a,h)anthracene) are present in the surface soil at concentrations that slightly exceed both the PRG and the MO ASL. One additional PAH, benzo(a)anthracene, is present at a concentration that slightly exceeds the PRG for industrial soil, but is less than the ASL. In addition, the locations of the detections above the ASL and PRG were inside the area of the site that is securely fenced and covered by gravel and brick debris.

CONDITIONS SUSCEPTIBLE TO IMPACT FROM ADVERSE WEATHER CONDITIONS: YES X or NO __

EXPLAIN: The contaminated soil on-site is covered by gravel and vegetation; however, heavy rains could potentially wash the soils from the site.

THREAT OF FIRE OR EXPLOSION: YES__ or NO X

EXPLAIN: The primary types of contaminants identified were PAHs, which do not present a fire or explosion threat.

POTENTIAL FOR OTHER FEDERAL OR STATE RESPONSE MECHANISMS: YES__ or NO X

EXPLAIN:

OTHER SITUATIONS OR FACTORS WHICH POSE A THREAT: YES __ or NO X

EXPLAIN:

SUPERFUND REMOVAL SITE EVALUATION
and
REMOVAL PRELIMINARY ASSESSMENT

V. PROPOSED REMOVAL ACTIONS [40 CFR 300.415(d)]:

(NOTE: The following identifies potential removal actions which may be determined to be appropriate pending further review and study. The proposed actions should be considered preliminary proposals and are subject to change.)

SITE SECURITY: **YES __ or NO X**

EXPLAIN: The portion of the site with the highest levels of contamination is securely fenced. The remaining areas of the site have low levels of contamination in the surface soils; however, are not expected to pose a significant health risk to the nearby community if exposed.

DRAINAGE CONTROL: **YES __ or NO X**

EXPLAIN: Drainage control is not a significant concern at the Mexico FMGP.

STABILIZATION OR REMOVAL OF SURFACE IMPOUNDMENTS: **YES __ or NO X**

EXPLAIN: Not applicable.

CAPPING OF CONTAMINATED SOIL: **YES __ or NO X**

EXPLAIN: The contaminated surface soils do not presently have a significant cap; however, exposure risks for the nearby community are low and the site is covered by a combination of gravel and healthy vegetation.

USE OF CHEMICALS TO CONTROL/RETARD SPREAD OF CONTAMINATION: **YES __ or NO X**

EXPLAIN: Not applicable.

CONTAMINATED SOIL EXCAVATION: **YES __ or NO X**

EXPLAIN: The relatively small quantity of low-level contaminated soils is not expected to cause a significant health risked to the nearby population.

REMOVAL OF DRUMS, TANKS, OR BULK STORAGE CONTAINERS: **YES __ or NO X**

EXPLAIN: Not applicable.

CONTAINMENT, TREATMENT, OR DISPOSAL OF HAZARDOUS SUBSTANCES, POLLUTANTS, OR CONTAMINANTS: **YES __ or NO X**

EXPLAIN: There is a small quantity of low-level contamination on-site.

SUPERFUND REMOVAL SITE EVALUATION
and
REMOVAL PRELIMINARY ASSESSMENT

PROVIDE ALTERNATIVE WATER SUPPLIES: YES __ or NO X

EXPLAIN: The drinking water has not been impacted by contamination from the Mexico FMGP.

VI. REMOVAL SITE EVALUATION DETERMINATION AND REMOVAL PRELIMINARY ASSESSMENT FINDINGS AND RECOMMENDATIONS:

X	**REMOVAL NOT WARRANTED - REMOVAL SITE EVALUATION TERMINATED**

(Cite one or more of the criteria from SECTION III. **REMOVAL SITE EVALUATION CRITERIA**, as the basis for the above determination.)

		NOT A RELEASE			**NOT A FACILITY OR VESSEL**
		NOT A HAZARDOUS SUBSTANCE OR POLLUTANT OR CONTAMINANT			**SUBJECT TO RESPONSE LIMITATIONS**
	X	**INSUFFICIENT QUANTITY OR CONCENTRATION**			**WILLING/CAPABLE PRP IDENTIFIED**

COMMENT:
Although three carcinogenic PAHs have been detected in surface soils on-site, contamination appears to be localized and not widespread throughout the site. In addition, the concentrations of PAHs detected are just slightly above the PRGs for industrial soil and, in many cases, less than the MO ASL.

	REMOVAL RECOMMENDED [__ EMERGENCY __ TIME-CRITICAL __ NON-TIME-CRITICAL]

(Cite one or more of the conditions or factors from Section IV. **CONDITIONS TO WARRANT A REMOVAL ACTION**, as a basis for recommending that a removal action be conducted.)

		EXPOSURE TO HAZARDOUS SUBSTANCES OR POLLUTANTS OR CONTAMINANTS					**ADVERSE WEATHER IMPACTS**
		CONTAMINATED DRINKING WATER		**FIRE/EXPLOSION THREAT**			**CONTAMINATED SOIL**
		DRUMS, BARRELS OR CONTAINERS		**NO OTHER RESPONSE MECHANISM**			**OTHER FACTORS**

(Identify one or more of the removal actions listed in Section V.**REMOVAL ACTIONS WHICH MAY BE APPROPRIATE**, as examples of the types of response actions which are recommended.)

		SITE SECURITY		**DRAINAGE CONTROL**			**IMPOUNDMENT STABILIZATION**
		REMOVAL OF DRUMS, BARRELS, ETC.		**SOIL CAPPING**			**SOIL EXCAVATION**
		CONTAIN/TREAT/DISPOSE OF WASTES		**CHEMICAL CONTROLS**			**ALT. DRINKING WATER SUPPLIES**

COMMENT:

SUPERFUND REMOVAL SITE EVALUATION
and
REMOVAL PRELIMINARY ASSESSMENT

ADDITIONAL REMOVAL SITE EVALUATION RECOMMENDED

(Cite one or more of the conditions or factors from Section IV. **CONDITIONS TO WARRANT A REMOVAL ACTION**, as a basis for recommending that additional site evaluation be performed.)

(Identify one or more of the removal actions listed in Section V.**REMOVAL ACTIONS WHICH MAY BE APPROPRIATE**, as examples of the types of response actions which may be appropriate pending the results of further site evaluation.)

	EXPOSURE TO HAZARDOUS SUBSTANCES OR POLLUTANTS OR CONTAMINANTS				ADVERSE WEATHER IMPACTS
	CONTAMINATED DRINKING WATER		FIRE/EXPLOSION THREAT		CONTAMINATED SOIL
	DRUMS, BARRELS OR CONTAINERS		NO OTHER RESPONSE MECHANISM		OTHER FACTORS

COMMENT:

	SITE SECURITY		DRAINAGE CONTROL		IMPOUNDMENT STABILIZATION
	REMOVAL OF DRUMS, BARRELS, ETC.		SOIL CAPPING		SOIL EXCAVATION
	CONTAIN/TREAT/DISPOSE OF WASTE		CHEMICAL CONTROLS		ALTERNATIVE DRINKING WATER SUPPLIES

VII. ADDITIONAL INFORMATION OR COMMENTS

VIII. CERTIFICATION

SIGNATURE: Kimberly Foster **DATE**: 9/14/2000

POSITION/TITLE: Environmental Specialist

OFFICE/AGENCY: Hazardous Waste Program/ MO Department of Natural Resources

SUPERFUND REMOVAL SITE EVALUATION
and
REMOVAL PRELIMINARY ASSESSMENT

SUPPLEMENTAL WASTE INVENTORY SHEET

IX. HAZARDOUS SUBSTANCES, POLLUTANTS OR CONTAMINANT INFORMATION:

MATERIAL DESCRIPTION	CONTAINER INFORMATION					
TRADE NAME/ACTIVE INGREDIENTS	NUMBER of CONTAINERS	SIZE	TYPE	SOLID or LIQUID	% FULL	CONDITION

Disposition

EPA	POTENTIAL HAZARDOUS WASTE SITE FINAL STRATEGY DETERMINATION	REGION VII	SITE NUMBER MOSFN0703558

File this form in the regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency, Site Tracking System; Hazardous Waste Enforcement Task Force (EN-335); 401 M St., SW; Washington, D.C. 20460.

I. SITE IDENTIFICATION

A. SITE NAME	B. STREET		
Mexico FMGP	South Western and High Streets		
C. CITY	D. STATE	E. ZIP CODE	
Mexico	MO	65265	

II. FINAL DETERMINATION

Indicate the recommended action(s) and agency(ies) that should be involved by marking 'X' in the appropriate boxes.

RECOMMENDATION	Mark 'X'	Action Agency: EPA	STATE	LOCAL	PRIVATE
A. NO ACTION NEEDED	X				
B. REMEDIAL ACTION NEEDED, BUT NO RESOURCES AVAILABLE (If yes, complete Section III.)					
C. REMEDIAL ACTION (If yes, complete Section IV.)					
D. ENFORCEMENT ACTION (If yes, specify in Part E whether the case will be primarily managed by the EPA or the State and what type of enforcement action is anticipated.)					

E. RATIONALE FOR FINAL STRATEGY DETERMINATION

Although PAHs have been detected in surface soils on-site, contamination appears to be localized and not widespread throughout the site. In addition, the concentrations of PAHs detected are just slightly above the PRGs for industrial soil and, in many cases, do not exceed the MO ASL.

F. IF A CASE DEVELOPMENT PLAN HAS BEEN PREPARED, SPECIFY THE DATE PREPARED (mo., day, & yr.)	G. IF AN ENFORCEMENT CASE HAS BEEN FILED, SPECIFY THE DATE FILED (mo., day, & yr.)

H. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (mo., day, & yr.)
Kimberlee Foster	(573) 751-8629	September 15, 2000

III. REMEDIAL ACTION TO BE TAKEN WHEN RESOURCES BECOME AVAILABLE

List all remedial actions, such as excavation, removal, etc. to be taken as soon as resources become available. See instructions for a list of Key Words for each of the actions to be used in the spaces below. Provide an estimate of the approximate cost of the remedy.

A. REMEDIAL ACTION	B. ESTIMATED COST	C. REMARKS
	$	
	$	
	$	
	$	
	$	
	$	
	$	
D. TOTAL ESTIMATED COST	$	

Continue On Reverse

Continued from front

IV. REMEDIAL ACTIONS

A. SHORT TERM/EMERGENCY ACTIONS (On Site and Off-Site): List all emergency actions taken or planned to bring the site under immediate control, e.g., restrict access, provide alternate water supply, etc. See instructions for a list of Key Words for each of the actions to be used in the spaces below.

1. ACTION	2. ACTION START DATE mo, day, y r	3. ACTION END DATE mo, day, yr	4. ACTION AGENCY EPA, State, Private Party	5. COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED.
				$	
				$	
				$	
				$	
				$	
				$	

B. LONG TERM STRATEGY (On Site and Off-Site): List all long term solutions, e.g., excavation, removal, ground water monitoring wells, etc. See instructions for a list of Key Words for each of the actions to be used in the spaces below.

1. ACTION	2. ACTION START DATE mo, day, y r	3. ACTION END DATE mo, day, yr	4. ACTION AGENCY EPA, State, Private Party	5. COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED.
				$	
				$	
				$	
				$	
				$	
				$	

C. MANHOURS AND COST BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL MAN-HOURS FOR REMEDIAL ACTIVITIES	3. TOTAL COST FOR REMEDIAL ACTIVITIES
a. EPA		$
b. STATE		$
c. PRIVATE PARTIES		$
d. OTHER(specify):		$

References

Mexico FMGP
Four Mile Radius Map
Audrain County, Missouri

Mexico FMGP
Mexico , Missouri
PA/RSE
REFERENCE 3

U.S.G.S. Topographic Map
7.5 Minute Series
Mexico West, Missouri Quadrangle, 1984

U.S.G.S. Topographic Map
7.5 Minute Series
Mexico East, Missouri Quadrangle, 1984

N

Mexico FMGP

0.25 Mile

0.50 Mile

1 Mile

2 Mile

3 Mile

4 Mile

U.S.G.S. Topographic Map
7.5 Minute Series
Auxvasse, Missouri Quadrangle, 1972

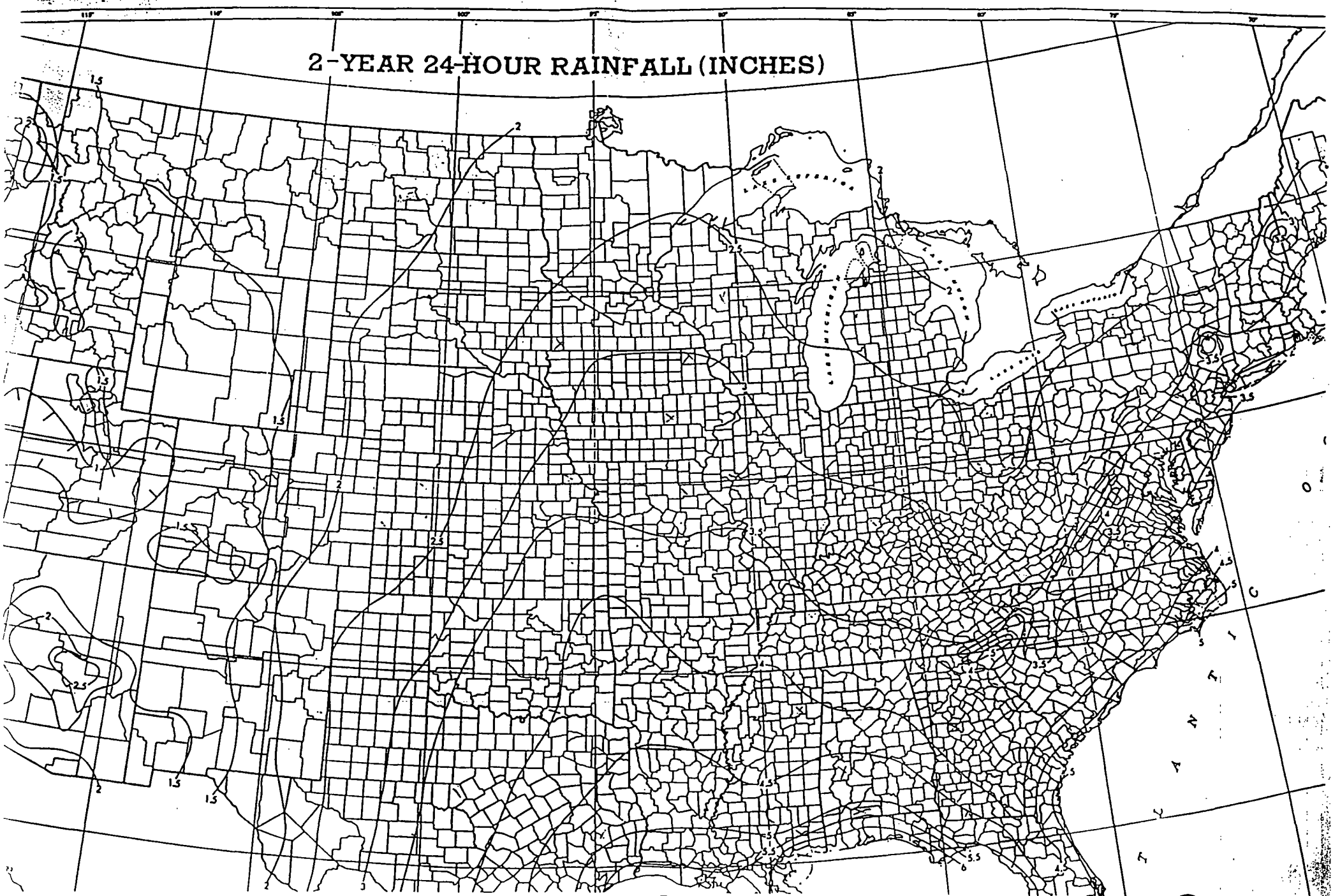
U.S.G.S. Topographic Map
7.5 Minute Series
Mexico SE, Missouri Quadrangle, 1984

U.S. DEPARTMENT OF COMMERCE

TECHNICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED STA

for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years


2-YEAR 24-HOUR RAINFALL (INCHES)

Mexico FMGP
Mexico , Missouri
PA/RSE
REFERENCE 8

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

MEMORANDUM

DATE: July 27, 2000

TO: Mexico FMGP Superfund Technical File

FROM: Kimberlee Foster, Environmental Specialist
Site Evaluation Unit, Superfund Section
Hazardous Waste Program

SUBJECT: Site Visit to the Mexico FMGP site on July 14, 2000

On July 14, 2000, Brian Allen, of the Environmental Services Program, and I visited the Mexico FMGP site in Audrain County, Missouri, as part of the Preliminary Assessment/ Removal Site Evaluation (PA/RSE) investigation. The purpose of this site visit was to determine ownership of the property to the west of the site, examine areas of concern noted during the Pre-CERCLIS Site Screening (SS), and to identify sampling locations for the upcoming sampling event.

Mr. Allen and I arrived at the site at approximately 0940. The weather conditions were sunny and slightly breezy with the temperatures in the middle 80s. No Ameren UE personnel (the current site owners) were present for the site visit; however, the gate to the property was standing open upon our arrival. Mr. Allen and I then proceeded to inspect the areas outside the Ameren UE property to the west, north, and northeast of the site.

To the west of the site is a paved area identified during the SS investigation as being a "driveway with tar-like staining". During the SS, the ownership of the paved area was in question and no samples could be collected. After several conversations with the city of Mexico engineers, I determined that this area was the remains of a former paved street known as Liberty. Liberty Street formerly began at its intersection with South Western Street (to the northwest of the site area) and extended west across and beyond Muldrow Street. The small section of Liberty Street, to the east of Muldrow Street, was closed when an underpass for the nearby railroad was built for Muldrow Street. At that time, the small section (less than one block) of Liberty street that remained to the east of Muldrow Street was abandoned and a guardrail was placed at its intersection with Muldrow Street (see file photograph 4). Mr. Allen and I carefully

inspected the remains of the former street for evidence of "tar-like staining" and found nothing more than what appears to be old, decaying asphalt from the former road's surface.

Mr. Allen and I then investigated the grassy area to the south of the former Liberty Street section. This area is believed to be the location of the former spray/ cooling ponds depicted on historical Sanborn maps. The grassy area is located to the west of the site, just north of the Martinsburg Bank and Trust facility. Mr. Allen and I met with Mr. Bob Darr, of Martinsburg Bank and Trust, to discuss the bank's property boundaries. After looking at property maps, it was determined that the bank owns the grassy area through its border with the former Liberty Street section. Mr. Darr provided us with a copy of one property map for our files, and granted us permission to conduct sampling in the area of the former spray/cooling pond at our upcoming sampling event in August.

Mr. Allen and I then investigated the area to the northeast of the northeast corner of the Ameren UE fencing. This area was identified as the former coal storage area, with dark surface soil staining, during the SS investigation. Mr. Allen and I identified the area of stained soil approximately 10 feet to the northeast of the northeast corner of the fence, approximately 160 feet south of the railroad tracks. This area is currently covered by areas of lush, green vegetation (see photographs 1 and 3). In addition, there is a small debris pile to the north of the site area that contains railroad ties and various patches of vegetation (see photograph 2).

Mr. Allen and I determined potential sampling locations and then left the site at approximately 1030 hours.

KF:cj

C: Brian Allen, ESP

Preliminary Assessment/Removal Site Evaluation Sampling Report

Mexico Former Manufactured Gas Plant Site
Mexico, Missouri
Audrain County

August 9, 2000

Prepared For:

Missouri Department of Natural Resources
Division of Environmental Quality
Hazardous Waste Program

Prepared By:

Missouri Department of Natural Resources
Division of Environmental Quality
Environmental Services Program

Table of Contents

1.0 Introduction

As authorized under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986, the Missouri Department of Natural Resources (MDNR), Hazardous Waste Program (HWP), Site Evaluation Unit is conducting a Combined Preliminary Assessment/Removal Site Evaluation (PA/RSE) on the Mexico Former Manufactured Gas Plant (FMGP) site. The PA/RSE will investigate the threat to human health and the environment posed by the site. The MDNR, HWP requested the MDNR, Environmental Services Program (ESP) prepare and implement a sampling plan as part of the PA/RSE. The scope of the sampling effort included the collection of surface and subsurface soil grab samples in an effort to determine the types and concentrations of hazardous substances on-site and the extent of migration of any hazardous substances from the site.

On August 9, 2000, ESP Environmental Specialists Brian Allen and Ken Hannon traveled to the site to conduct sampling. HWP Environmental Specialist Kimberlee Foster was present during the sampling event to observe and assist in selecting sample locations. Mr. Warren Mueller, representing AmerenUE, was also present to observe and collect splits of select samples. Information learned from field observations and sampling will be used by the HWP in scoring the site's potential as a hazardous waste site under the CERCLA Hazard Ranking System as well as determine whether any removal actions may be warranted.

2.0 Site Information

2.1 Location

The Mexico FMGP site is located northeast of the intersection of South Western Street and High Street, within the city limits of Mexico, MO. The legal description is the NW ¼ NW ¼ SE ¼ sec. 26, T. 51 N., R. 9 W. The geographic coordinates of the site are Latitude +39.169583, Longitude –91.886806.

2.2 Description

The Mexico FMGP site is on property currently owned by AmerenUE and is situated in a generally business/residential setting. The property is the current location of an active electrical substation. The site is bounded to the north by railroad right-of-way, to the west by South Western Street, to the south by High Street, and to the east by South Olive Street. The site is surrounded by a six-foot chain link fence, which encompasses the substation, generally located in the south- central and southwest portion of the site, and a separate maintenance building, located in the southeast portion of the site. The remainder of the site is gravel-covered. Surface water flow from the site would appear to drain to the south and enter the municipal storm sewer drainage system along High Street.

A bank is located southwest of the site and several residences are located to the east and southeast.

2.3 History/Contaminants of Concern

Information provided by HWP indicates the site began manufacturing gas in 1885. Gas manufacturing production expanded over time and continued for the next approximately 50 years. MDNR personnel conducted a site screening sampling investigation on December 2, 1999, with apparent coal-tar residuals encountered in several of the soil borings. Results from this sampling event indicated contaminants present in the subsurface on-site that are associated with FMGP operations. The contaminants of concern on-site consist, primarily, of semi-volatile organic compounds. The possibility exists that volatile organic compounds may be of concern should personnel encounter significant coal-tar residuals.

3.0 Methods

3.1 Field Procedures

A health and safety briefing was conducted on-site and personnel read and signed the site-specific health and safety plan prior to initiating field activities.

Missouri One-Call was notified of proposed field activities prior to ESP personnel arriving on-site, and all applicable underground utilities marked.

Non-random sampling was conducted in an attempt to determine the types and extent of hazardous substances that may be present in the surface and subsurface soils on-site and immediately off-site. The sampling plan directed field personnel to collect seven to ten surface soil samples (0- to 6-inch depth) and three to five subsurface soil samples. Surface soil samples were collected on-site from the area immediately east of the current electrical substation. Surface and depth-discrete soil samples were collected from the area of staining located immediately north of the northeast corner of the site's perimeter fence and from the bank property, located just west of the site. Specific sampling points were chosen based upon visual observations, accessibility (with regards to the electrical substation's active lines), and the former locations of manufactured gas plant structures.

All sample locations and descriptions were noted in a bound field logbook and locations noted on a site map. Personnel identified each location as soil boring (SB-) X, where X represents a number unique to each location. Photographs were taken during the sampling event of the site and several sampling locations, which are attached as Appendix C. Personnel also determined the geographic coordinates of all sample locations, which are presented in Table 3.

3.1.1 Surface soil samples

Surface soil grab samples were collected utilizing clean trowels, spoons and aluminum foil pans and/or a track-mounted hydraulic soil probe. For samples collected with clean trowels and spoons, personnel retrieved soil from no greater than the 6-inch depth at each location for placement into clean aluminum foil pans. The soil was then homogenized and placed into sample containers. Refer to Section 3.1.2 for a description of the collection method of surface soil samples with the use of the track-mounted hydraulic soil probe.

3.1.2 Depth-discrete soil samples

Depth-discrete soil grab samples (and select surface soil grab samples) were collected using the track-mounted hydraulic soil probe. Clean disposable acetate liners were inserted into stainless steel MacroCore™ samplers fitted with clean cutting shoes. The core samplers were advanced via push rods and the samplers and soil retrieved. The acetate liners were removed and cut open exposing the soil. Clean spoons were used to transfer soil from the desired depth into clean aluminum foil pans. The soil was then homogenized and placed into sample containers.

3.2 Sample Quantity

A total of 12 soil grab samples were collected during the sampling event. Refer to Table 1 for the identity, location, date, and time of each sample collected and Appendix A (site map) for the sample locations relative to the site.

3.3 Analyses Requested

All samples were submitted for base neutrals/acid extractables analyses. Instructions were relayed to analytical personnel that if any sample's total analyte results were 80% of twenty times the Toxicity Characteristic Leaching Procedure (TCLP) regulatory limit, TCLP analysis would be performed on that sample.

3.4 Chain-of-Custody

All samples received a numbered label and the corresponding number was entered onto a chain-of-custody form indicating the location, date and time of collection, and analytes requested. Samples were stored and transported on ice in coolers. ESP field personnel maintained custody of the samples until relinquishing them to a sample custodian at the state's environmental laboratory within the Environmental Services Program in Jefferson City for analyses.

4.0 Data Quality

To help ensure precise, accurate, representative, complete, and comparable data are achieved, all field work and analyses were conducted in accordance with the Quality Assurance Project Plan for Pre-Remedial Site Assessments dated June 30, 1999, and ongoing. Unless otherwise noted in this sampling report, ESP field personnel utilized standard operating procedures established within the ESP, Field Services Section for all samples collected.

4.1 Field Methods

Clean disposable nitrile gloves were worn by sampling personnel and clean equipment was utilized for each separate sample collected to minimize the possibility of cross-contamination.

Field personnel noted all observations, sample locations, descriptions, and methods in a bound field logbook.

4.2 Field Decontamination

Field decontamination of sampling equipment was not required during the sampling event.

4.3 Quality Assurance/Quality Control Samples

One blind replicate sample was collected during the sampling event. The replicate sample was collected by dividing the true sample evenly into two separate samples, after homogenization, and submitting each for laboratory analyses. The replicate sample received a numbered label, was described on the chain-of-custody form as a "Blind Replicate," and submitted for the same analytes as its true sample.

5.0 Investigation Derived Wastes (IDW)

Field personnel returned unused soils to the ground immediately after sample collection. Disposable personal protective equipment and disposable sampling equipment were handled as solid waste, containerized, and properly disposed.

6.0 Observations

The weather during the sampling event was clear and sunny with temperatures reaching approximately 90 degrees Fahrenheit. Winds were predominantly from the west at 5-15 miles per hour.

Personnel encountered refusal at the approximate 4-foot depth at each boring conducted in the grass-covered area north of the Martinsburg Bank & Trust building. This is the apparent area of the former cooling pond and there was an unverified report that the area had been previously filled in with concrete and other demolition debris.

Personnel did not encounter any obvious coal tar residuals during the sampling event, though, some slight staining was observed at two of the soil boring (SB-) locations. Additionally, it was apparent that the grass-covered area consisted of primarily fill material while the area north of the northeast corner of the electrical substation fence appeared to be native material.

A decision was made in the field by HWP and ESP personnel to utilize background data from the December 2, 1999, Site Screening sampling investigation as background data for this event. Therefore, no background samples were collected on this date.

Please refer to Table 2 for observations noted on each sample submitted for laboratory analyses.

7.0 Reporting

Please refer to Appendix B for analytical results of samples collected. Copies of the chain-of-custody forms and ESP field notes were previously forwarded to HWP personnel as requested.

Submitted by:

Brian J. Allen
Environmental Specialist
Superfund/RCRA Unit
Environmental Services Program

Date: 9/12/2000

Approved by:

James H. Long
Environmental Manager
Environmental Services Program

JHL:bam

c: Kimberlee Foster, Environmental Specialist, HWP
Irene Crawford, Regional Director, NERO

TABLES
Mexico FMGP Site
Mexico, Missouri

Table 1
Sample Listing

Sample #	Sample Media/Type	Location Collected	Date/Time Collected
0002186	Soil grab	SB-1, located approximately 35 ft west and 5 ft north of the northwest corner of the maintenance building, inside the electrical substation fence. The sample was collected from the 0- to 6-inch depth.	8/9/00 @ 1101
0002187	Soil grab	SB-2, located approximately 25 ft west and 20 ft north of the northwest corner of the maintenance building, inside the electrical substation fence. The sample was collected from the 0- to 6-inch depth.	8/9/00 @ 1106
0002188	Soil grab	SB-3, located approximately 6 ft west and 28 ft north of the northwest corner of the maintenance building, inside the electrical substation fence. The sample was collected from the 0- to 6-inch depth.	8/9/00 @ 1111
0002189	Soil grab	SB-4, located in the grass-covered area north of the Martinsburg Bank & Trust building approximately 55 ft north of the north edge of the bank parking lot and 95 ft west of the west edge of S. Western Avenue. The sample was collected from the 0- to 6-inch depth.	8/9/00 @ 1128
0002190	Soil grab	SB-4, collected from the 3.5-4 ft depth.	8/9/00 @ 1138
0002191	Soil grab	SB-5, located in the grass-covered area north of the Martinsburg Bank & Trust building approximately 60 ft north of the north edge of the bank parking lot and 47 ft west of the west edge of S. Western Avenue. The sample was collected from the 3.5-4 ft depth.	8/9/00 @ 1148
0002192	Soil grab	SB-6, located in the grass-covered area north of the Martinsburg Bank & Trust building approximately 115 ft north of the north edge of the bank parking lot and 75 ft west of the west edge of S. Western Avenue. The sample was collected from the 0- to 6-inch depth.	8/9/00 @ 1158
0002193	QA/QC sample (replicate)	Blind replicate sample of 0002191.	8/9/00 @ 1148
0002194	Soil grab	SB-6, collected from the 3.5-4 ft depth.	8/9/00 @ 1203
0002195	Soil grab	SB-7, located approximately 30 ft north of the northeast corner of the electrical substation fence. The sample was collected from the 0- to 6-inch depth.	8/9/00 @ 1243
0002196	Soil grab	SB-7, collected from the 3.5-4 ft depth.	8/9/00 @ 1246
0002197	Soil grab	SB-8, located approximately 8 ft north and 18 ft west of the northeast corner of the electrical substation fence. The sample was collected from the 0- to 6-inch depth.	8/9/00 @ 1345
0002198	Soil grab	SB-8, collected from the 3.5-4 ft depth.	8/9/00 @ 1352

Table 2
Sample Descriptions

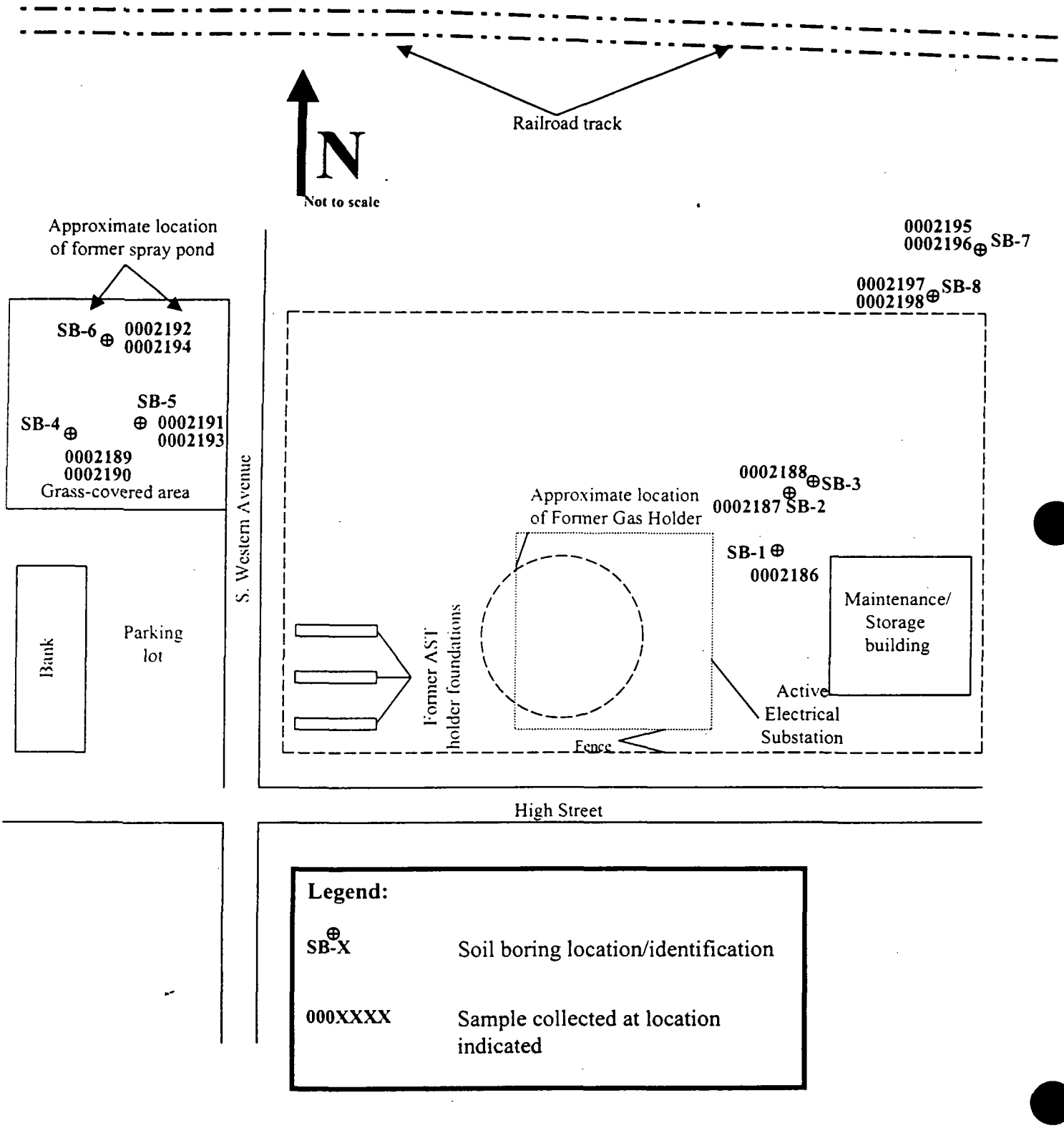
Sample #	Sample Description/Observations
0002186	Soil grab consisted of wet, dark-brown, loamy top soil with <1/2-inch sized gravel interspersed. No odors or staining were noted.
0002187	Soil grab consisted of wet, dark-brown, loamy top soil with <1/2-inch sized gravel interspersed. No odors or staining were noted.
0002188	Soil grab consisted of wet, dark-brown, loamy top soil with <1/2-inch sized gravel interspersed. No odors or staining were noted.
0002189	Soil grab consisted of brown clay fill material with roots observed. No odors or staining were noted.
0002190	Soil grab consisted of brown clay fill material with gravel and brick debris interspersed. No odors or staining were noted.
0002191	Soil grab consisted of brown clay fill material with <1-inch sized gravel interspersed. No odors or staining were noted.
0002192	Soil grab consisted of brown clay fill material with <1/2-inch sized gravel interspersed and some roots observed. No odors or staining were noted.
0002193	Replicate sample of 0002191. Same description as above.
0002194	Soil grab consisted of brown clay fill material with a minor amount of <1/4-inch sized gravel observed. No odors or staining were noted.
0002195	Soil grab consisted of brown clay fill material with <1/2-inch sized gravel interspersed. Some possible staining was noted at the 4- to 6 –inch depth, though no odors were associated with the sample.
0002196	Soil grab consisted of apparent native brown and tan brown silty clay. No odors or staining were noted.
0002197	Soil grab consisted of brown clay fill material with <1/2-inch sized gravel interspersed. Some possible staining was noted at the 2- to 4-inch depth, though no odors were associated with the sample.
0002198	Soil grab consisted of apparent native brown and tan brown silty clay. No odors or staining were noted.

Table 3
Geographic Coordinates

Sample Location	Decimal Degrees		Universal Transverse Mercator	
	Latitude	Longitude	Easting	Northing
SB-1	+39.169694	-91.886667	596176	4336197
SB-2	+39.169667	-91.886611	596180	4336195
SB-3	+39.169778	-91.886611	596181	4336209
SB-4	+39.170139	-91.887833	596074	4336246
SB-5	+39.170111	-91.887667	596089	4336245
SB-6	+39.170278	-91.887750	596082	4336263
SB-7	+39.170056	-91.886361	596203	4336240
SB-8	+39.169972	-91.886389	596199	4336231

APPENDIX A
Site Map
Mexico FMGP Site
Mexico, Missouri

Site Map
Mexico FMGP Site



APPENDIX B
Analytical Results
Mexico FMGP Site
Mexico, Missouri

STATE OF MISSOURI
Mel Carnahan, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002186
Lab Number: 00-D2491

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 9/ 1/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, SOIL GRAB OF SB-1
Sample Description: COLLECTED FROM 0-6 INCH DEPTH
County: AUDRAIN

Analysis Performed	Results		Analyzed	Method
BNA Results:				
Phenol	< 250	ug/kg	8/22/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/22/00	8270
2-Chlorophenol	< 500	ug/kg	8/22/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/22/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
2-Methylphenol	< 250	ug/kg	8/22/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/22/00	8270
4-Methylphenol	< 250	ug/kg	8/22/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/22/00	8270
Hexachloroethane	< 250	ug/kg	8/22/00	8270
Nitrobenzene	< 250	ug/kg	8/22/00	8270
Isophorone	< 250	ug/kg	8/22/00	8270
2-Nitrophenol	< 500	ug/kg	8/22/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/22/00	8270
Benzoic Acid	< 250	ug/kg	8/22/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/22/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/22/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/22/00	8270
Naphthalene	< 250	ug/kg	8/22/00	8270
4-Chloroaniline	< 500	ug/kg	8/22/00	8270
Hexachlorobutadiene	< 250	ug/kg	8/22/00	8270

Analysis Performed	Results		Analyzed	Method
4-Chloro-3-Methylphenol	< 500	ug/kg	8/22/00	8270
2-Methylnaphthalene	350	ug/kg	8/22/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/22/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/22/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/22/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/22/00	8270
2-Nitroaniline	< 500	ug/kg	8/22/00	8270
Dimethylphthalate	< 250	ug/kg	8/22/00	8270
Acenaphthylene	< 250	ug/kg	8/22/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
3-Nitroaniline	< 500	ug/kg	8/22/00	8270
Acenaphthene	370	ug/kg	8/22/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/22/00	8270
4-Nitrophenol	< 500	ug/kg	8/22/00	8270
Dibenzofuran	380	ug/kg	8/22/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
Diethylphthalate	< 250	ug/kg	8/22/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/22/00	8270
Fluorene	490	ug/kg	8/22/00	8270
4-Nitroaniline	< 500	ug/kg	8/22/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/22/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/22/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/22/00	8270
Hexachlorobenzene	< 250	ug/kg	8/22/00	8270
Pentachlorophenol	< 500	ug/kg	8/22/00	8270
Phenanthrene	5,400	ug/kg	8/22/00	8270
Comment: 1/10 dilution on 8/29/00				
Anthracene	1,900	ug/kg	8/22/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/22/00	8270
Fluoranthene	14,000	ug/kg	8/22/00	8270
Comment: 1/10 dilution on 8/29/00				
Pyrene	8,800	ug/kg	8/22/00	8270
Comment: 1/10 dilution on 8/29/00				
Butylbenzylphthalate	< 250	ug/kg	8/22/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/22/00	8270
Benzo(a)anthracene	4,200	ug/kg	8/22/00	8270
Chrysene	3,500	ug/kg	8/22/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/22/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/22/00	8270
Benzo(b)fluoranthene	3,200	ug/kg	8/22/00	8270
Benzo(k)fluoranthene	3,000	ug/kg	8/22/00	8270
Benzo(a)pyrene	3,300	ug/kg	8/22/00	8270
Indeno(1,2,3-cd)pyrene	2,900	ug/kg	8/22/00	8270
Dibenz(a,h)anthracene	2,400	ug/kg	8/22/00	8270
Benzo(g,h,i)perylene	3,800	ug/kg	8/22/00	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: VALERIE WILDER, HWP

STATE OF MISSOURI
Mel Carnahan, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002187
Lab Number: 00-D2492

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 8/30/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, SOIL GRAB OF SB-2
Sample Description: COLLECTED FROM 0-6 INCH DEPTH
County: AUDRAIN

lysis Performed	Results		Analyzed	Method
BNA Results:				
Phenol	< 250	ug/kg	8/22/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/22/00	8270
2-Chlorophenol	< 500	ug/kg	8/22/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/22/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
2-Methylphenol	< 250	ug/kg	8/22/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/22/00	8270
4-Methylphenol	< 250	ug/kg	8/22/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/22/00	8270
Hexachloroethane	< 250	ug/kg	8/22/00	8270
Nitrobenzene	< 250	ug/kg	8/22/00	8270
Isophorone	< 250	ug/kg	8/22/00	8270
2-Nitrophenol	< 500	ug/kg	8/22/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/22/00	8270
Benzoic Acid	< 250	ug/kg	8/22/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/22/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/22/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/22/00	8270
Naphthalene	< 250	ug/kg	8/22/00	8270
4-Chloroaniline	< 500	ug/kg	8/22/00	8270
xachlorobutadiene	< 250	ug/kg	8/22/00	8270
Chloro-3-Methylphenol	< 500	ug/kg	8/22/00	8270

Analysis Performed	Results		Analyzed	Method
2-Methylnaphthalene	310	ug/kg	8/22/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/22/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/22/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/22/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/22/00	8270
2-Nitroaniline	< 500	ug/kg	8/22/00	8270
Dimethylphthalate	< 250	ug/kg	8/22/00	8270
Acenaphthylene	< 250	ug/kg	8/22/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
3-Nitroaniline	< 500	ug/kg	8/22/00	8270
Acenaphthene	< 250	ug/kg	8/22/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/22/00	8270
4-Nitrophenol	< 500	ug/kg	8/22/00	8270
Dibenzofuran	260	ug/kg	8/22/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
Diethylphthalate	< 250	ug/kg	8/22/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/22/00	8270
Fluorene	< 250	ug/kg	8/22/00	8270
4-Nitroaniline	< 500	ug/kg	8/22/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/22/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/22/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/22/00	8270
Hexachlorobenzene	< 250	ug/kg	8/22/00	8270
Pentachlorophenol	< 500	ug/kg	8/22/00	8270
Phenanthrene	1,600	ug/kg	8/22/00	8270
Anthracene	930	ug/kg	8/22/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/22/00	8270
Fluoranthene	3,500	ug/kg	8/22/00	8270
Pyrene	2,700	ug/kg	8/22/00	8270
Butylbenzylphthalate	< 250	ug/kg	8/22/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/22/00	8270
Benzo(a)anthracene	1,900	ug/kg	8/22/00	8270
Chrysene	2,000	ug/kg	8/22/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/22/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/22/00	8270
Benzo(b)fluoranthene	1,800	ug/kg	8/22/00	8270
Benzo(k)fluoranthene	1,800	ug/kg	8/22/00	8270
Benzo(a)pyrene	2,100	ug/kg	8/22/00	8270
Indeno(1,2,3-cd)pyrene	2,100	ug/kg	8/22/00	8270
Dibenz(a,h)anthracene	1,300	ug/kg	8/22/00	8270
Benzo(g,h,i)perylene	1,900	ug/kg	8/22/00	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: VALERIE WILDER, HWP

STATE OF MISSOURI
Mel Carnahan, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002188
Lab Number: 00-D2493

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 8/30/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, SOIL GRAB OF SB-3
Sample Description: COLLECTED FROM 0-6 INCH DEPTH
County: AUDRAIN

Analysis Performed	Results		Analyzed	Method
BNA Results:				
Phenol	< 250	ug/kg	8/22/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/22/00	8270
2-Chlorophenol	< 500	ug/kg	8/22/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/22/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
2-Methylphenol	< 250	ug/kg	8/22/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/22/00	8270
4-Methylphenol	< 250	ug/kg	8/22/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/22/00	8270
Hexachloroethane	< 250	ug/kg	8/22/00	8270
Nitrobenzene	< 250	ug/kg	8/22/00	8270
Isophorone	< 250	ug/kg	8/22/00	8270
2-Nitrophenol	< 500	ug/kg	8/22/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/22/00	8270
Benzoic Acid	< 250	ug/kg	8/22/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/22/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/22/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/22/00	8270
Naphthalene	< 250	ug/kg	8/22/00	8270
4-Chloroaniline	< 500	ug/kg	8/22/00	8270
Hexachlorobutadiene	< 250	ug/kg	8/22/00	8270
hloro-3-Methylphenol	< 500	ug/kg	8/22/00	8270

Analysis Performed	Results		Analyzed	Method
2-Methylnaphthalene	< 250	ug/kg	8/22/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/22/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/22/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/22/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/22/00	8270
2-Nitroaniline	< 500	ug/kg	8/22/00	8270
Dimethylphthalate	< 250	ug/kg	8/22/00	8270
Acenaphthylene	< 250	ug/kg	8/22/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
3-Nitroaniline	< 500	ug/kg	8/22/00	8270
Acenaphthene	< 250	ug/kg	8/22/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/22/00	8270
4-Nitrophenol	< 500	ug/kg	8/22/00	8270
Dibenzofuran	< 250	ug/kg	8/22/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
Diethylphthalate	< 250	ug/kg	8/22/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/22/00	8270
Fluorene	< 250	ug/kg	8/22/00	8270
4-Nitroaniline	< 500	ug/kg	8/22/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/22/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/22/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/22/00	8270
Hexachlorobenzene	< 250	ug/kg	8/22/00	8270
Pentachlorophenol	< 500	ug/kg	8/22/00	8270
Phenanthrene	< 250	ug/kg	8/22/00	8270
Anthracene	< 250	ug/kg	8/22/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/22/00	8270
Fluoranthene	490	ug/kg	8/22/00	8270
Pyrene	< 500	ug/kg	8/22/00	8270
Butylbenzylphthalate	< 250	ug/kg	8/22/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/22/00	8270
Benzo(a)anthracene	380	ug/kg	8/22/00	8270
Chrysene	270	ug/kg	8/22/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/22/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/22/00	8270
Benzo(b)fluoranthene	< 250	ug/kg	8/22/00	8270
Benzo(k)fluoranthene	< 250	ug/kg	8/22/00	8270
Benzo(a)pyrene	< 250	ug/kg	8/22/00	8270
Indeno(1,2,3-cd)pyrene	< 250	ug/kg	8/22/00	8270
Dibenz(a,h)anthracene	< 250	ug/kg	8/22/00	8270
Benzo(g,h,i)perylene	< 250	ug/kg	8/22/00	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: VALERIE WILDER, HWP

STATE OF MISSOURI
Mel Carnahan, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002189
Lab Number: 00-D2494

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 8/31/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, SOIL GRAB OF SB-4
Sample Description: COLLECTED FROM 0-6 INCH DEPTH
County: AUDRAIN

Analysis Performed	Results		Analyzed	Method
BNA Results:				
Phenol	< 250	ug/kg	8/22/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/22/00	8270
2-Chlorophenol	< 500	ug/kg	8/22/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/22/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
2-Methylphenol	< 250	ug/kg	8/22/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/22/00	8270
4-Methylphenol	< 250	ug/kg	8/22/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/22/00	8270
Hexachloroethane	< 250	ug/kg	8/22/00	8270
Nitrobenzene	< 250	ug/kg	8/22/00	8270
Isophorone	< 250	ug/kg	8/22/00	8270
2-Nitrophenol	< 500	ug/kg	8/22/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/22/00	8270
Benzoic Acid	< 250	ug/kg	8/22/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/22/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/22/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/22/00	8270
Naphthalene	< 250	ug/kg	8/22/00	8270
4-Chloroaniline	< 500	ug/kg	8/22/00	8270
Hexachlorobutadiene	< 250	ug/kg	8/22/00	8270

Analysis Performed	Results		Analyzed	Method
4-Chloro-3-Methylphenol	< 500	ug/kg	8/22/00	8270
2-Methylnaphthalene	< 250	ug/kg	8/22/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/22/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/22/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/22/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/22/00	8270
2-Nitroaniline	< 500	ug/kg	8/22/00	8270
Dimethylphthalate	< 250	ug/kg	8/22/00	8270
Acenaphthylene	< 250	ug/kg	8/22/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
3-Nitroaniline	< 500	ug/kg	8/22/00	8270
Acenaphthene	< 250	ug/kg	8/22/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/22/00	8270
4-Nitrophenol	< 500	ug/kg	8/22/00	8270
Dibenzofuran	< 250	ug/kg	8/22/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
Diethylphthalate	< 250	ug/kg	8/22/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/22/00	8270
Fluorene	< 250	ug/kg	8/22/00	8270
4-Nitroaniline	< 500	ug/kg	8/22/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/22/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/22/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/22/00	8270
Hexachlorobenzene	< 250	ug/kg	8/22/00	8270
Pentachlorophenol	< 500	ug/kg	8/22/00	8270
Phenanthrene	< 250	ug/kg	8/22/00	8270
Anthracene	< 250	ug/kg	8/22/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/22/00	8270
Fluoranthene	370	ug/kg	8/22/00	8270
Pyrene	< 500	ug/kg	8/22/00	8270
Butylbenzylphthalate	< 250	ug/kg	8/22/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/22/00	8270
Benzo(a)anthracene	< 250	ug/kg	8/22/00	8270
Chrysene	< 250	ug/kg	8/22/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/22/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/22/00	8270
Benzo(b)fluoranthene	< 250	ug/kg	8/22/00	8270
Benzo(k)fluoranthene	< 250	ug/kg	8/22/00	8270
Benzo(a)pyrene	< 250	ug/kg	8/22/00	8270
Indeno(1,2,3-cd)pyrene	< 250	ug/kg	8/22/00	8270
Dibenz(a,h)anthracene	< 250	ug/kg	8/22/00	8270
Benzo(g,h,i)perylene	< 250	ug/kg	8/22/00	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: VALERIE WILDER, HWP

Mel Carnahan, Governor • Stephen M. Mahfood, Director

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002190
Lab Number: 00-D2495

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 8/31/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, SOIL GRAB OF SB-4
Sample Description: COLLECTED FROM 3.5-4 FT DEPTH
County: AUDRAIN

Analysis Performed	Results		Analyzed	Method
BNA Results:				
Phenol	< 250	ug/kg	8/22/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/22/00	8270
2-Chlorophenol	< 500	ug/kg	8/22/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/22/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
2-Methylphenol	< 250	ug/kg	8/22/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/22/00	8270
4-Methylphenol	< 250	ug/kg	8/22/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/22/00	8270
Hexachloroethane	< 250	ug/kg	8/22/00	8270
Nitrobenzene	< 250	ug/kg	8/22/00	8270
Isophorone	< 250	ug/kg	8/22/00	8270
2-Nitrophenol	< 500	ug/kg	8/22/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/22/00	8270
Benzoic Acid	< 250	ug/kg	8/22/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/22/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/22/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/22/00	8270
Naphthalene	< 250	ug/kg	8/22/00	8270
4-Chloroaniline	< 500	ug/kg	8/22/00	8270
Hexachlorobutadiene	< 250	ug/kg	8/22/00	8270

Analysis Performed	Results		Analyzed	Method
4-Chloro-3-Methylphenol	< 500	ug/kg	8/22/00	8270
2-Methylnaphthalene	340	ug/kg	8/22/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/22/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/22/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/22/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/22/00	8270
2-Nitroaniline	< 500	ug/kg	8/22/00	8270
Dimethylphthalate	< 250	ug/kg	8/22/00	8270
Acenaphthylene	< 250	ug/kg	8/22/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
3-Nitroaniline	< 500	ug/kg	8/22/00	8270
Acenaphthene	< 250	ug/kg	8/22/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/22/00	8270
4-Nitrophenol	< 500	ug/kg	8/22/00	8270
Dibenzofuran	260	ug/kg	8/22/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
Diethylphthalate	< 250	ug/kg	8/22/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/22/00	8270
Fluorene	260	ug/kg	8/22/00	8270
4-Nitroaniline	< 500	ug/kg	8/22/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/22/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/22/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/22/00	8270
Hexachlorobenzene	< 250	ug/kg	8/22/00	8270
Pentachlorophenol	< 500	ug/kg	8/22/00	8270
Phenanthrene	1,800	ug/kg	8/22/00	8270
Anthracene	570	ug/kg	8/22/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/22/00	8270
Fluoranthene	2,500	ug/kg	8/22/00	8270
Pyrene	1,000	ug/kg	8/22/00	8270
Butylbenzylphthalate	< 250	ug/kg	8/22/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/22/00	8270
Benzo(a)anthracene	740	ug/kg	8/22/00	8270
Chrysene	830	ug/kg	8/22/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/22/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/22/00	8270
Benzo(b)fluoranthene	910	ug/kg	8/22/00	8270
Benzo(k)fluoranthene	840	ug/kg	8/22/00	8270
Benzo(a)pyrene	1,200	ug/kg	8/22/00	8270
Indeno(1,2,3-cd)pyrene	1,400	ug/kg	8/22/00	8270
Dibenz(a,h)anthracene	880	ug/kg	8/22/00	8270
Benzo(g,h,i)perylene	790	ug/kg	8/22/00	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: VALERIE WILDER, HWP

STATE OF MISSOURI
Mel Carnahan, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002191
Lab Number: 00-D2496

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 8/30/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, SOIL GRAB OF SB-5
Sample Description: COLLECTED FROM 3.5-4 FT DEPTH
County: AUDRAIN

Analysis Performed	Results		Analyzed	Method
BNA Results:				
Phenol	< 250	ug/kg	8/22/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/22/00	8270
2-Chlorophenol	< 500	ug/kg	8/22/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/22/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
2-Methylphenol	< 250	ug/kg	8/22/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/22/00	8270
4-Methylphenol	< 250	ug/kg	8/22/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/22/00	8270
Hexachloroethane	< 250	ug/kg	8/22/00	8270
Nitrobenzene	< 250	ug/kg	8/22/00	8270
Isophorone	< 250	ug/kg	8/22/00	8270
2-Nitrophenol	< 500	ug/kg	8/22/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/22/00	8270
Benzoic Acid	< 250	ug/kg	8/22/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/22/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/22/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/22/00	8270
Naphthalene	< 250	ug/kg	8/22/00	8270
4-Chloroaniline	< 500	ug/kg	8/22/00	8270
Hexachlorobutadiene	< 250	ug/kg	8/22/00	8270
hloro-3-Methylphenol	< 500	ug/kg	8/22/00	8270

Analysis Performed	Results		Analyzed	Method
2-Methylnaphthalene	250	ug/kg	8/22/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/22/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/22/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/22/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/22/00	8270
2-Nitroaniline	< 500	ug/kg	8/22/00	8270
Dimethylphthalate	< 250	ug/kg	8/22/00	8270
Acenaphthylene	< 250	ug/kg	8/22/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
3-Nitroaniline	< 500	ug/kg	8/22/00	8270
Acenaphthene	< 250	ug/kg	8/22/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/22/00	8270
4-Nitrophenol	< 500	ug/kg	8/22/00	8270
Dibenzofuran	< 250	ug/kg	8/22/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
Diethylphthalate	< 250	ug/kg	8/22/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/22/00	8270
Fluorene	< 250	ug/kg	8/22/00	8270
4-Nitroaniline	< 500	ug/kg	8/22/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/22/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/22/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/22/00	8270
Hexachlorobenzene	< 250	ug/kg	8/22/00	8270
Pentachlorophenol	< 500	ug/kg	8/22/00	8270
Phenanthrene	260	ug/kg	8/22/00	8270
Anthracene	< 250	ug/kg	8/22/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/22/00	8270
Fluoranthene	420	ug/kg	8/22/00	8270
Pyrene	< 500	ug/kg	8/22/00	8270
Butylbenzylphthalate	< 250	ug/kg	8/22/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/22/00	8270
Benzo(a)anthracene	< 250	ug/kg	8/22/00	8270
Chrysene	< 250	ug/kg	8/22/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/22/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/22/00	8270
Benzo(b)fluoranthene	< 250	ug/kg	8/22/00	8270
Benzo(k)fluoranthene	< 250	ug/kg	8/22/00	8270
Benzo(a)pyrene	< 250	ug/kg	8/22/00	8270
Indeno(1,2,3-cd)pyrene	< 250	ug/kg	8/22/00	8270
Dibenz(a,h)anthracene	< 250	ug/kg	8/22/00	8270
Benzo(g,h,i)perylene	260	ug/kg	8/22/00	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: VALERIE WILDER, HWP

STATE OF MISSOURI
Mel Carnahan, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002192
Lab Number: 00-D2497

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 8/30/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, SOIL GRAB OF SB-6
Sample Description: COLLECTED FROM 0-6 INCH DEPTH
County: AUDRAIN

Analysis Performed	Results		Analyzed	Method
BNA Results:				
Phenol	< 250	ug/kg	8/22/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/22/00	8270
2-Chlorophenol	< 500	ug/kg	8/22/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/22/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/22/00	8270
2-Methylphenol	< 250	ug/kg	8/22/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/22/00	8270
4-Methylphenol	< 250	ug/kg	8/22/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/22/00	8270
Hexachloroethane	< 250	ug/kg	8/22/00	8270
Nitrobenzene	< 250	ug/kg	8/22/00	8270
Isophorone	< 250	ug/kg	8/22/00	8270
2-Nitrophenol	< 500	ug/kg	8/22/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/22/00	8270
Benzoic Acid	< 250	ug/kg	8/22/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/22/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/22/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/22/00	8270
Naphthalene	< 250	ug/kg	8/22/00	8270
4-Chloroaniline	< 500	ug/kg	8/22/00	8270
Hexachlorobutadiene	< 250	ug/kg	8/22/00	8270
Chloro-3-Methylphenol	< 500	ug/kg	8/22/00	8270

Analysis Performed	Results		Analyzed	Method
2-Methylnaphthalene	< 250	ug/kg	8/22/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/22/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/22/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/22/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/22/00	8270
2-Nitroaniline	< 500	ug/kg	8/22/00	8270
Dimethylphthalate	< 250	ug/kg	8/22/00	8270
Acenaphthylene	< 250	ug/kg	8/22/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
3-Nitroaniline	< 500	ug/kg	8/22/00	8270
Acenaphthene	< 250	ug/kg	8/22/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/22/00	8270
4-Nitrophenol	< 500	ug/kg	8/22/00	8270
Dibenzofuran	< 250	ug/kg	8/22/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/22/00	8270
Diethylphthalate	< 250	ug/kg	8/22/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/22/00	8270
Fluorene	< 250	ug/kg	8/22/00	8270
4-Nitroaniline	< 500	ug/kg	8/22/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/22/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/22/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/22/00	8270
Hexachlorobenzene	< 250	ug/kg	8/22/00	8270
Pentachlorophenol	< 500	ug/kg	8/22/00	8270
Phenanthrene	520	ug/kg	8/22/00	8270
Anthracene	< 250	ug/kg	8/22/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/22/00	8270
Fluoranthene	1,700	ug/kg	8/22/00	8270
Pyrene	830	ug/kg	8/22/00	8270
Butylbenzylphthalate	< 250	ug/kg	8/22/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/22/00	8270
Benzo(a)anthracene	750	ug/kg	8/22/00	8270
Chrysene	510	ug/kg	8/22/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/22/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/22/00	8270
Benzo(b)fluoranthene	480	ug/kg	8/22/00	8270
Benzo(k)fluoranthene	410	ug/kg	8/22/00	8270
Benzo(a)pyrene	660	ug/kg	8/22/00	8270
Indeno(1,2,3-cd)pyrene	730	ug/kg	8/22/00	8270
Dibenz(a,h)anthracene	< 250	ug/kg	8/22/00	8270
Benzo(g,h,i)perylene	460	ug/kg	8/22/00	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: VALERIE WILDER, HWP

Mel Carnahan, Governor • Stephen M. Mahfood, Director
STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002193
Lab Number: 00-D2498

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 8/31/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, BLIND DUPLICATE
County: AUDRAIN

Analysis Performed	Results		Analyzed	Method
A Results:				
Phenol	< 250	ug/kg	8/25/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/25/00	8270
2-Chlorophenol	< 500	ug/kg	8/25/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/25/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
2-Methylphenol	< 250	ug/kg	8/25/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/25/00	8270
4-Methylphenol	< 250	ug/kg	8/25/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/25/00	8270
Hexachloroethane	< 250	ug/kg	8/25/00	8270
Nitrobenzene	< 250	ug/kg	8/25/00	8270
Isophorone	< 250	ug/kg	8/25/00	8270
2-Nitrophenol	< 500	ug/kg	8/25/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/25/00	8270
Benzoic Acid	< 250	ug/kg	8/25/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/25/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/25/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/25/00	8270
Naphthalene	< 250	ug/kg	8/25/00	8270
4-Chloroaniline	< 500	ug/kg	8/25/00	8270
Hexachlorobutadiene	< 250	ug/kg	8/25/00	8270
4-Chloro-3-Methylphenol	< 500	ug/kg	8/25/00	8270

Analysis Performed	Results		Analyzed	Method
2-Methylnaphthalene	< 250	ug/kg	8/25/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/25/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/25/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/25/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/25/00	8270
2-Nitroaniline	< 500	ug/kg	8/25/00	8270
Dimethylphthalate	< 250	ug/kg	8/25/00	8270
Acenaphthylene	< 250	ug/kg	8/25/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/25/00	8270
3-Nitroaniline	< 500	ug/kg	8/25/00	8270
Acenaphthene	< 250	ug/kg	8/25/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/25/00	8270
4-Nitrophenol	< 500	ug/kg	8/25/00	8270
Dibenzofuran	< 250	ug/kg	8/25/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/25/00	8270
Diethylphthalate	< 250	ug/kg	8/25/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/25/00	8270
Fluorene	< 250	ug/kg	8/25/00	8270
4-Nitroaniline	< 500	ug/kg	8/25/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/25/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/25/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/25/00	8270
Hexachlorobenzene	< 250	ug/kg	8/25/00	8270
Pentachlorophenol	< 500	ug/kg	8/25/00	8270
Phenanthrene	< 250	ug/kg	8/25/00	8270
Anthracene	< 250	ug/kg	8/25/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/25/00	8270
Fluoranthene	< 250	ug/kg	8/25/00	8270
Pyrene	< 500	ug/kg	8/25/00	8270
Butylbenzylphthalate	< 250	ug/kg	8/25/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/25/00	8270
Benzo(a)anthracene	< 250	ug/kg	8/25/00	8270
Chrysene	< 250	ug/kg	8/25/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/25/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/25/00	8270
Benzo(b)fluoranthene	< 250	ug/kg	8/25/00	8270
Benzo(k)fluoranthene	< 250	ug/kg	8/25/00	8270
Benzo(a)pyrene	< 250	ug/kg	8/25/00	8270
Indeno(1,2,3-cd)pyrene	< 250	ug/kg	8/25/00	8270
Dibenz(a,h)anthracene	< 250	ug/kg	8/25/00	8270
Benzo(g,h,i)perylene	< 250	ug/kg	8/25/00	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: VALERIE WILDER, HWP

STATE OF MISSOURI
Mel Carnahan, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002194
Lab Number: 00-D2499

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 8/31/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, SOIL GRAB OF SB-6
Sample Description: COLLECTED FROM 3.5-4 FT DEPTH
County: AUDRAIN

Analysis Performed	Results		Analyzed	Method
BNA Results:				
Phenol	< 250	ug/kg	8/25/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/25/00	8270
2-Chlorophenol	< 500	ug/kg	8/25/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/25/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
2-Methylphenol	< 250	ug/kg	8/25/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/25/00	8270
4-Methylphenol	< 250	ug/kg	8/25/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/25/00	8270
Hexachloroethane	< 250	ug/kg	8/25/00	8270
Nitrobenzene	< 250	ug/kg	8/25/00	8270
Isophorone	< 250	ug/kg	8/25/00	8270
2-Nitrophenol	< 500	ug/kg	8/25/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/25/00	8270
Benzoic Acid	< 250	ug/kg	8/25/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/25/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/25/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/25/00	8270
Naphthalene	< 250	ug/kg	8/25/00	8270
4-Chloroaniline	< 500	ug/kg	8/25/00	8270
Hexachlorobutadiene	< 250	ug/kg	8/25/00	8270

Analysis Performed	Results		Analyzed	Method
4-Chloro-3-Methylphenol	< 500	ug/kg	8/25/00	8270
2-Methylnaphthalene	< 250	ug/kg	8/25/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/25/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/25/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/25/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/25/00	8270
2-Nitroaniline	< 500	ug/kg	8/25/00	8270
Dimethylphthalate	< 250	ug/kg	8/25/00	8270
Acenaphthylene	< 250	ug/kg	8/25/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/25/00	8270
3-Nitroaniline	< 500	ug/kg	8/25/00	8270
Acenaphthene	< 250	ug/kg	8/25/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/25/00	8270
4-Nitrophenol	< 500	ug/kg	8/25/00	8270
Dibenzofuran	< 250	ug/kg	8/25/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/25/00	8270
Diethylphthalate	< 250	ug/kg	8/25/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/25/00	8270
Fluorene	< 250	ug/kg	8/25/00	8270
4-Nitroaniline	< 500	ug/kg	8/25/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/25/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/25/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/25/00	8270
Hexachlorobenzene	< 250	ug/kg	8/25/00	8270
Pentachlorophenol	< 500	ug/kg	8/25/00	8270
Phenanthrene	< 250	ug/kg	8/25/00	8270
Anthracene	< 250	ug/kg	8/25/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/25/00	8270
Fluoranthene	< 250	ug/kg	8/25/00	8270
Pyrene	< 500	ug/kg	8/25/00	8270
Butylbenzylphthalate	< 250	ug/kg	8/25/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/25/00	8270
Benzo(a)anthracene	< 250	ug/kg	8/25/00	8270
Chrysene	< 250	ug/kg	8/25/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/25/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/25/00	8270
Benzo(b)fluoranthene	< 250	ug/kg	8/25/00	8270
Benzo(k)fluoranthene	< 250	ug/kg	8/25/00	8270
Benzo(a)pyrene	< 250	ug/kg	8/25/00	8270
Indeno(1,2,3-cd)pyrene	< 250	ug/kg	8/25/00	8270
Dibenz(a,h)anthracene	< 250	ug/kg	8/25/00	8270
Benzo(g,h,i)perylene	< 250	ug/kg	8/25/00	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: VALERIE WILDER, HWP

Mel Carnahan, Governor • Stephen M. Mahfood, Director

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL QUALITY

P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002195
Lab Number: 00-D2500

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 8/31/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, SOIL GRAB OF SB-7
Sample Description: COLLECTED FROM 0-6 INCH DEPTH
County: AUDRAIN

Analysis Performed	Results		Analyzed	Method
BNA Results:				
Phenol	< 250	ug/kg	8/25/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/25/00	8270
2-Chlorophenol	< 500	ug/kg	8/25/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/25/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
2-Methylphenol	< 250	ug/kg	8/25/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/25/00	8270
4-Methylphenol	< 250	ug/kg	8/25/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/25/00	8270
Hexachloroethane	< 250	ug/kg	8/25/00	8270
Nitrobenzene	< 250	ug/kg	8/25/00	8270
Isophorone	< 250	ug/kg	8/25/00	8270
2-Nitrophenol	< 500	ug/kg	8/25/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/25/00	8270
Benzoic Acid	< 250	ug/kg	8/25/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/25/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/25/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/25/00	8270
Naphthalene	< 250	ug/kg	8/25/00	8270
4-Chloroaniline	< 500	ug/kg	8/25/00	8270
Hexachlorobutadiene	< 250	ug/kg	8/25/00	8270

Analysis Performed	Results		Analyzed	Method
4-Chloro-3-Methylphenol	< 500	ug/kg	8/25/00	8270
2-Methylnaphthalene	350	ug/kg	8/25/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/25/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/25/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/25/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/25/00	8270
2-Nitroaniline	< 500	ug/kg	8/25/00	8270
Dimethylphthalate	< 250	ug/kg	8/25/00	8270
Acenaphthylene	< 250	ug/kg	8/25/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/25/00	8270
3-Nitroaniline	< 500	ug/kg	8/25/00	8270
Acenaphthene	270	ug/kg	8/25/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/25/00	8270
4-Nitrophenol	< 500	ug/kg	8/25/00	8270
Dibenzofuran	300	ug/kg	8/25/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/25/00	8270
Diethylphthalate	< 250	ug/kg	8/25/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/25/00	8270
Fluorene	340	ug/kg	8/25/00	8270
4-Nitroaniline	< 500	ug/kg	8/25/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/25/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/25/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/25/00	8270
Hexachlorobenzene	< 250	ug/kg	8/25/00	8270
Pentachlorophenol	< 500	ug/kg	8/25/00	8270
Phenanthrene	4,400	ug/kg	8/25/00	8270
Anthracene	1,300	ug/kg	8/25/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/25/00	8270
Fluoranthene	3,900	ug/kg	8/25/00	8270
Pyrene	3,600	ug/kg	8/25/00	8270
Butylbenzylphthalate	< 250	ug/kg	8/25/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/25/00	8270
Benzo(a)anthracene	2,400	ug/kg	8/25/00	8270
Chrysene	1,400	ug/kg	8/25/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/25/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/25/00	8270
Benzo(b)fluoranthene	1,500	ug/kg	8/25/00	8270
Benzo(k)fluoranthene	1,200	ug/kg	8/25/00	8270
Benzo(a)pyrene	1,700	ug/kg	8/25/00	8270
Indeno(1,2,3-cd)pyrene	1,600	ug/kg	8/25/00	8270
Dibenz(a,h)anthracene	< 250	ug/kg	8/25/00	8270
Benzo(g,h,i)perylene	850	ug/kg	8/25/00	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: VALERIE WILDER, HWP

Mel Carnahan, Governor • Stephen M. Mahfood, Director

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL QUALITY

P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002196
Lab Number: 00-D2501

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 8/31/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, SOIL GRAB OF SB-7
Sample Description: COLLECTED FROM 3.5-4 FT DEPTH
County: AUDRAIN

Analysis Performed	Results		Analyzed	Method
BNA Results:				
Phenol	< 250	ug/kg	8/25/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/25/00	8270
2-Chlorophenol	< 500	ug/kg	8/25/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/25/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
2-Methylphenol	< 250	ug/kg	8/25/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/25/00	8270
4-Methylphenol	< 250	ug/kg	8/25/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/25/00	8270
Hexachloroethane	< 250	ug/kg	8/25/00	8270
Nitrobenzene	< 250	ug/kg	8/25/00	8270
Isophorone	< 250	ug/kg	8/25/00	8270
2-Nitrophenol	< 500	ug/kg	8/25/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/25/00	8270
Benzoic Acid	< 250	ug/kg	8/25/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/25/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/25/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/25/00	8270
Naphthalene	< 250	ug/kg	8/25/00	8270
4-Chloroaniline	< 500	ug/kg	8/25/00	8270
Hexachlorobutadiene	< 250	ug/kg	8/25/00	8270

Analysis Performed	Results		Analyzed	Method
4-Chloro-3-Methylphenol	< 500	ug/kg	8/25/00	8270
2-Methylnaphthalene	< 250	ug/kg	8/25/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/25/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/25/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/25/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/25/00	8270
2-Nitroaniline	< 500	ug/kg	8/25/00	8270
Dimethylphthalate	< 250	ug/kg	8/25/00	8270
Acenaphthylene	< 250	ug/kg	8/25/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/25/00	8270
3-Nitroaniline	< 500	ug/kg	8/25/00	8270
Acenaphthene	< 250	ug/kg	8/25/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/25/00	8270
4-Nitrophenol	< 500	ug/kg	8/25/00	8270
Dibenzofuran	< 250	ug/kg	8/25/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/25/00	8270
Diethylphthalate	< 250	ug/kg	8/25/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/25/00	8270
Fluorene	< 250	ug/kg	8/25/00	8270
4-Nitroaniline	< 500	ug/kg	8/25/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/25/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/25/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/25/00	8270
Hexachlorobenzene	< 250	ug/kg	8/25/00	8270
Pentachlorophenol	< 500	ug/kg	8/25/00	8270
Phenanthrene	< 250	ug/kg	8/25/00	8270
Anthracene	< 250	ug/kg	8/25/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/25/00	8270
Fluoranthene	< 250	ug/kg	8/25/00	8270
Pyrene	< 500	ug/kg	8/25/00	8270
Butylbenzylphthalate	< 250	ug/kg	8/25/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/25/00	8270
Benzo(a)anthracene	< 250	ug/kg	8/25/00	8270
Chrysene	< 250	ug/kg	8/25/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/25/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/25/00	8270
Benzo(b)fluoranthene	< 250	ug/kg	8/25/00	8270
Benzo(k)fluoranthene	< 250	ug/kg	8/25/00	8270
Benzo(a)pyrene	< 250	ug/kg	8/25/00	8270
Indeno(1,2,3-cd)pyrene	< 250	ug/kg	8/25/00	8270
Dibenz(a,h)anthracene	< 250	ug/kg	8/25/00	8270
Benzo(g,h,i)perylene	< 250	ug/kg	8/25/00	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: VALERIE WILDER, HWP

Mel Carnahan, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002197
Lab Number: 00-D2502

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 8/31/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, SOIL GRAB OF SB-8
Sample Description: COLLECTED FROM 0-6 INCH DEPTH
County: AUDRAIN

Analysis Performed	Results		Analyzed	Method
BNA Results:				
Phenol	< 250	ug/kg	8/25/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/25/00	8270
2-Chlorophenol	< 500	ug/kg	8/25/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/25/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
2-Methylphenol	< 250	ug/kg	8/25/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/25/00	8270
4-Methylphenol	< 250	ug/kg	8/25/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/25/00	8270
Hexachloroethane	< 250	ug/kg	8/25/00	8270
Nitrobenzene	< 250	ug/kg	8/25/00	8270
Isophorone	< 250	ug/kg	8/25/00	8270
2-Nitrophenol	< 500	ug/kg	8/25/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/25/00	8270
Benzoic Acid	< 250	ug/kg	8/25/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/25/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/25/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/25/00	8270
Naphthalene	< 250	ug/kg	8/25/00	8270
4-Chloroaniline	< 500	ug/kg	8/25/00	8270
Hexachlorobutadiene	< 250	ug/kg	8/25/00	8270

Analysis Performed	Results		Analyzed	Method
4-Chloro-3-Methylphenol	< 500	ug/kg	8/25/00	8270
2-Methylnaphthalene	330	ug/kg	8/25/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/25/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/25/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/25/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/25/00	8270
2-Nitroaniline	< 500	ug/kg	8/25/00	8270
Dimethylphthalate	< 250	ug/kg	8/25/00	8270
Acenaphthylene	< 250	ug/kg	8/25/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/25/00	8270
3-Nitroaniline	< 500	ug/kg	8/25/00	8270
Acenaphthene	< 250	ug/kg	8/25/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/25/00	8270
4-Nitrophenol	< 500	ug/kg	8/25/00	8270
Dibenzofuran	260	ug/kg	8/25/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/25/00	8270
Diethylphthalate	< 250	ug/kg	8/25/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/25/00	8270
Fluorene	< 250	ug/kg	8/25/00	8270
4-Nitroaniline	< 500	ug/kg	8/25/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/25/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/25/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/25/00	8270
Hexachlorobenzene	< 250	ug/kg	8/25/00	8270
Pentachlorophenol	< 500	ug/kg	8/25/00	8270
Phenanthrene	1,000	ug/kg	8/25/00	8270
Anthracene	350	ug/kg	8/25/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/25/00	8270
Fluoranthene	1,900	ug/kg	8/25/00	8270
Pyrene	870	ug/kg	8/25/00	8270
Butylbenzylphthalate	< 250	ug/kg	8/25/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/25/00	8270
Benzo(a)anthracene	580	ug/kg	8/25/00	8270
Chrysene	750	ug/kg	8/25/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/25/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/25/00	8270
Benzo(b)fluoranthene	1,000	ug/kg	8/25/00	8270
Benzo(k)fluoranthene	1,100	ug/kg	8/25/00	8270
Benzo(a)pyrene	1,300	ug/kg	8/25/00	8270
Indeno(1,2,3-cd)pyrene	1,300	ug/kg	8/25/00	8270
Dibenz(a,h)anthracene	1,100	ug/kg	8/25/00	8270
Benzo(g,h,i)perylene	740	ug/kg	8/25/00	8270

Mel Carnahan, Governor • Stephen M. Mahfood, Director
STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

ENVIRONMENTAL SERVICES PROGRAM

RESULTS OF SAMPLE ANALYSES

Sample Number: 0002198
Lab Number: 00-D2503

Reported To: BRIAN ALLEN
Affiliation: ESP
Project Code: 4085/9197

Report Date: 8/31/00
Date Collected: 8/ 9/00
Date Received: 8/ 9/00

Sample Collected by: BRIAN ALLEN, ESP
Sampling Location: MEXICO FMGP, SOIL GRAB OF SB-8
Sample Description: COLLECTED FROM 3.5-4 FT DEPTH
County: AUDRAIN

Analysis Performed	Results		Analyzed	Method
BNA Results:				
Phenol	< 250	ug/kg	8/25/00	8270
bis(-2-Chloroethyl)Ether	< 250	ug/kg	8/25/00	8270
2-Chlorophenol	< 500	ug/kg	8/25/00	8270
1,3-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
1,4-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
N-nitrosodimethylamine	< 250	ug/kg	8/25/00	8270
1,2-Dichlorobenzene	< 250	ug/kg	8/25/00	8270
2-Methylphenol	< 250	ug/kg	8/25/00	8270
bis(2-Chloroisopropyl)Eth	< 250	ug/kg	8/25/00	8270
4-Methylphenol	< 250	ug/kg	8/25/00	8270
N-Nitro-Di-n-Propylamine	< 250	ug/kg	8/25/00	8270
Hexachloroethane	< 250	ug/kg	8/25/00	8270
Nitrobenzene	< 250	ug/kg	8/25/00	8270
Isophorone	< 250	ug/kg	8/25/00	8270
2-Nitrophenol	< 500	ug/kg	8/25/00	8270
2,4-Dimethylphenol	< 250	ug/kg	8/25/00	8270
Benzoic Acid	< 250	ug/kg	8/25/00	8270
bis(2-Chloroethoxy)Methan	< 250	ug/kg	8/25/00	8270
2,4-Dichlorophenol	< 250	ug/kg	8/25/00	8270
1,2,4-Trichlorobenzene	< 250	ug/kg	8/25/00	8270
Naphthalene	< 250	ug/kg	8/25/00	8270
4-Chloroaniline	< 500	ug/kg	8/25/00	8270
Hexachlorobutadiene	< 250	ug/kg	8/25/00	8270

Analysis Performed	Results		Analyzed	Method
4-Chloro-3-Methylphenol	< 500	ug/kg	8/25/00	8270
2-Methylnaphthalene	< 250	ug/kg	8/25/00	8270
Hexachlorocyclopentadiene	< 250	ug/kg	8/25/00	8270
2,4,6-Trichlorophenol	< 500	ug/kg	8/25/00	8270
2,4,5-Trichlorophenol	< 250	ug/kg	8/25/00	8270
2-Chloronaphthalene	< 500	ug/kg	8/25/00	8270
2-Nitroaniline	< 500	ug/kg	8/25/00	8270
Dimethylphthalate	< 250	ug/kg	8/25/00	8270
Acenaphthylene	< 250	ug/kg	8/25/00	8270
2,6-Dinitrotoluene	< 250	ug/kg	8/25/00	8270
3-Nitroaniline	< 500	ug/kg	8/25/00	8270
Acenaphthene	< 250	ug/kg	8/25/00	8270
2,4-Dinitrophenol	< 750	ug/kg	8/25/00	8270
4-Nitrophenol	< 500	ug/kg	8/25/00	8270
Dibenzofuran	< 250	ug/kg	8/25/00	8270
2,4-Dinitrotoluene	< 250	ug/kg	8/25/00	8270
Diethylphthalate	< 250	ug/kg	8/25/00	8270
4-Chlorophenyl-phenylethe	< 250	ug/kg	8/25/00	8270
Fluorene	< 250	ug/kg	8/25/00	8270
4-Nitroaniline	< 500	ug/kg	8/25/00	8270
4,6-Dinitro-2-Methylpheno	< 500	ug/kg	8/25/00	8270
N-Nitrosodiphenylamine	< 250	ug/kg	8/25/00	8270
4-Bromophenyl-phenylether	< 250	ug/kg	8/25/00	8270
Hexachlorobenzene	< 250	ug/kg	8/25/00	8270
Pentachlorophenol	< 500	ug/kg	8/25/00	8270
Phenanthrene	< 250	ug/kg	8/25/00	8270
Anthracene	< 250	ug/kg	8/25/00	8270
Di-n-Butylphthalate	< 250	ug/kg	8/25/00	8270
Fluoranthene	< 250	ug/kg	8/25/00	8270
Pyrene	< 500	ug/kg	8/25/00	8270
Butylbenzylphthalate	< 250	ug/kg	8/25/00	8270
3-3'-Dichlorobenzidine	< 500	ug/kg	8/25/00	8270
Benzo(a)anthracene	< 250	ug/kg	8/25/00	8270
Chrysene	< 250	ug/kg	8/25/00	8270
bis(2-ethylhexyl)phthalat	< 250	ug/kg	8/25/00	8270
Di-n-Octylphthalate	< 1,000	ug/kg	8/25/00	8270
Benzo(b)fluoranthene	< 250	ug/kg	8/25/00	8270
Benzo(k)fluoranthene	< 250	ug/kg	8/25/00	8270
Benzo(a)pyrene	< 250	ug/kg	8/25/00	8270
Indeno(1,2,3-cd)pyrene	< 250	ug/kg	8/25/00	8270
Dibenz(a,h)anthracene	< 250	ug/kg	8/25/00	8270
Benzo(g,h,i)perylene	< 250	ug/kg	8/25/00	8270

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

James H. Long, Director
Environmental Services Program
Division of Environmental Quality

c: VALERIE WILDER, HWP

APPENDIX C
Photographs
Mexico FMGP Site
Mexico, Missouri

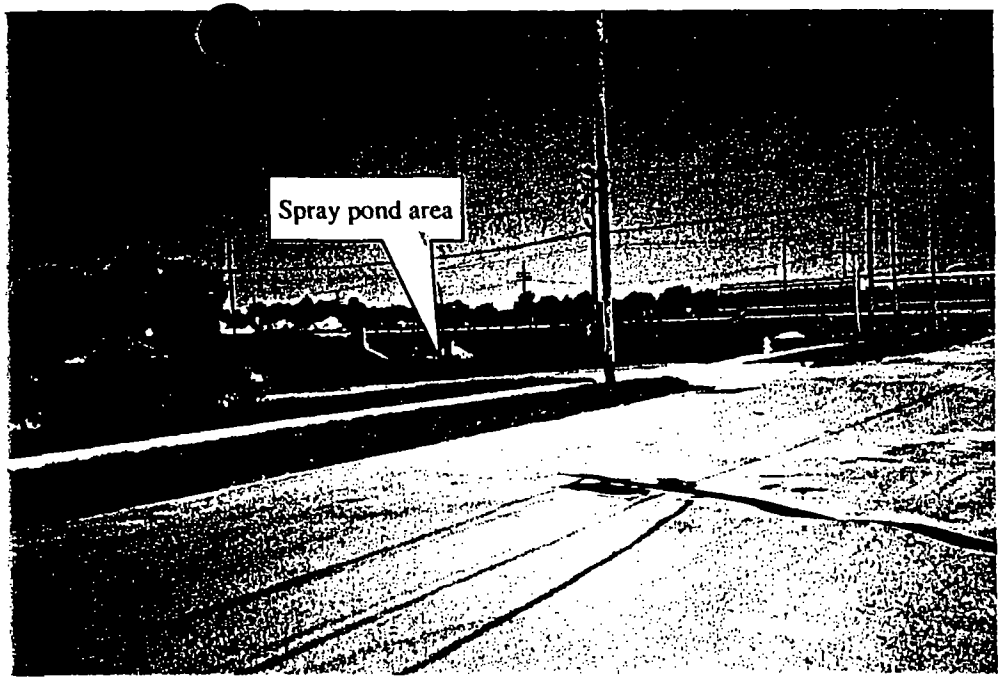


Photo #1 View looking northwest at grass-covered area north of the bank, which is the former location of the FMGP spray pond.

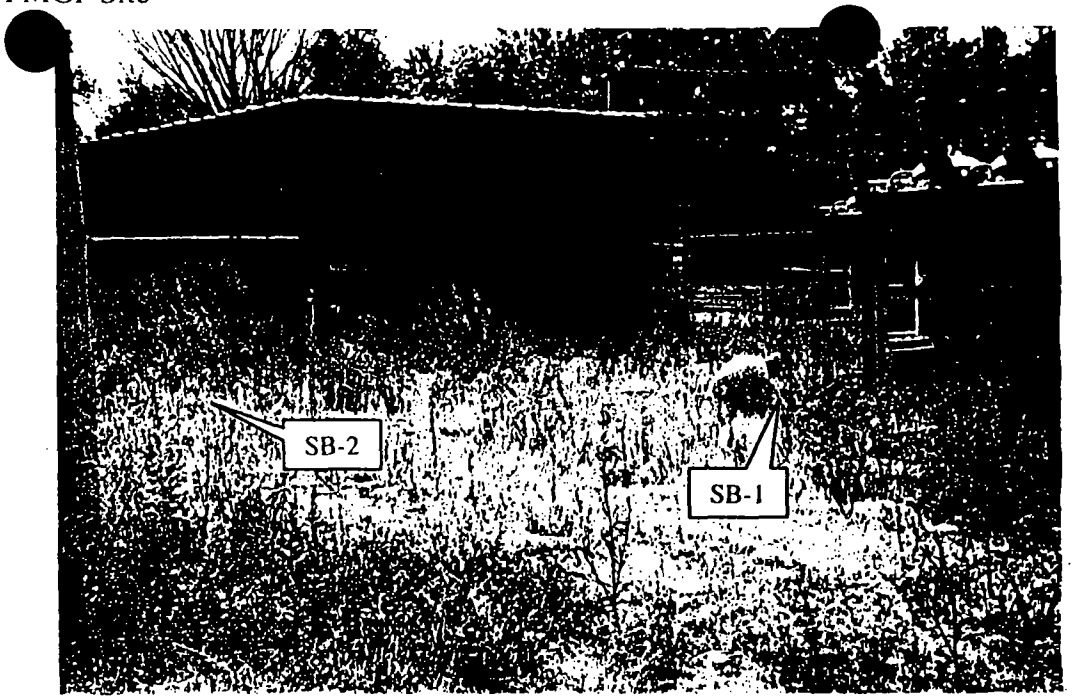


Photo #2 View looking southeast of ESP personnel collecting a surface soil grab sample at location "SB-1".

Photo #3 Close-up view of ESP personnel collecting a surface soil grab at location "SB-1".

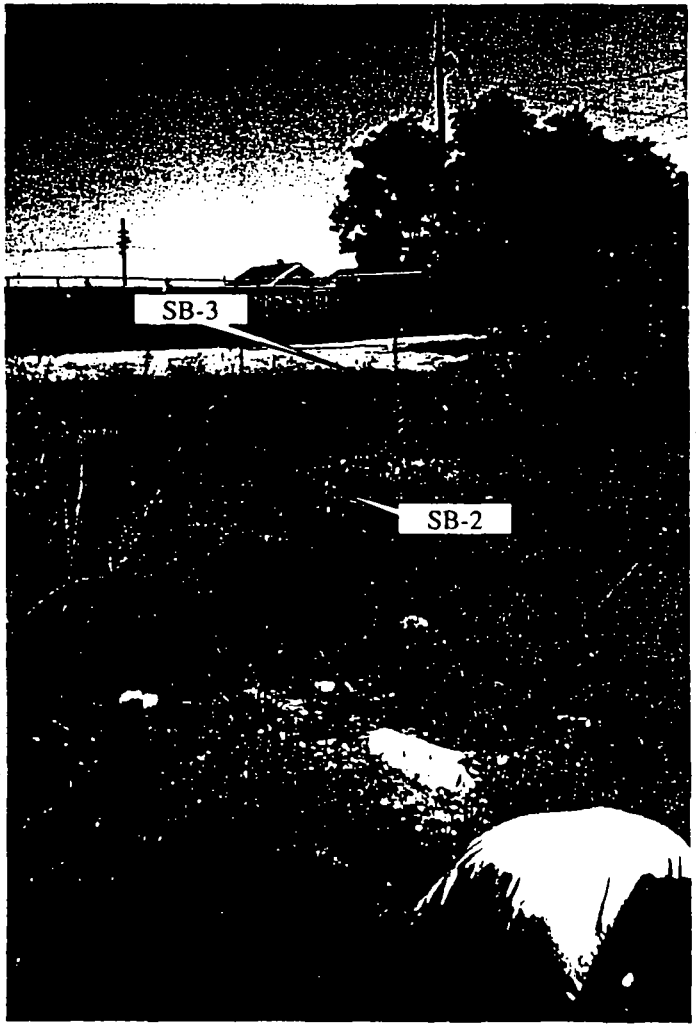


Photo #4 View looking north-northeast of ESP personnel collecting a soil grab sample at location "SB-1", with flags indicating the locations of "SB-2" and "SB-3" in the background.

Photo #5 Close-up view of samples 0002187 and 0002188 immediately after collection.

Photo #6 View looking north-northeast of ESP personnel conducting soil boring at "SB-5".

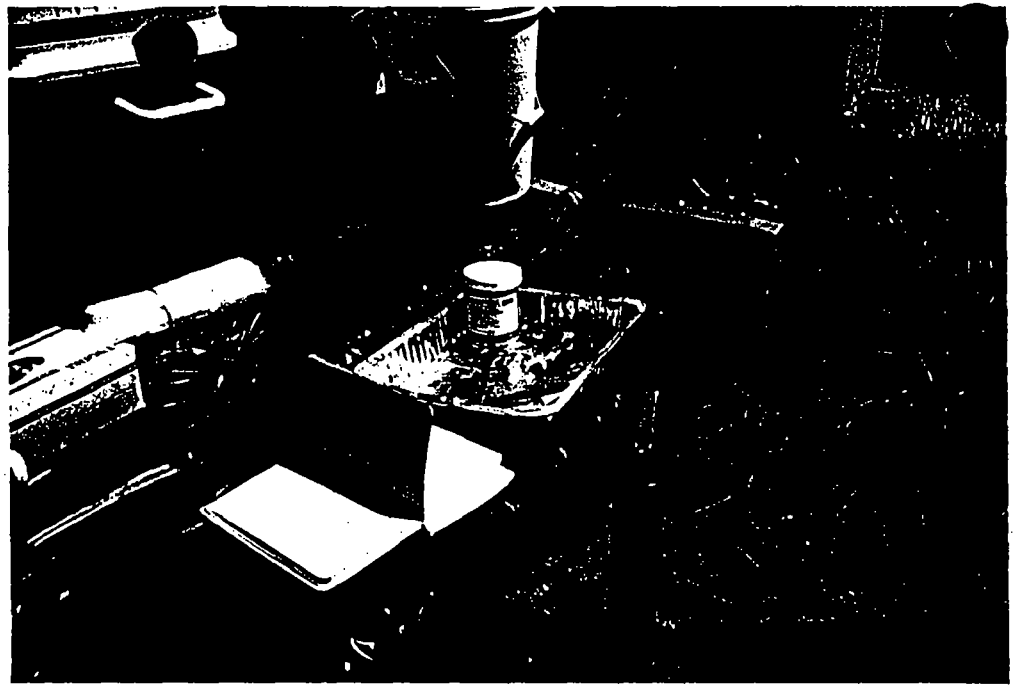


Photo #7 View of sample collection area

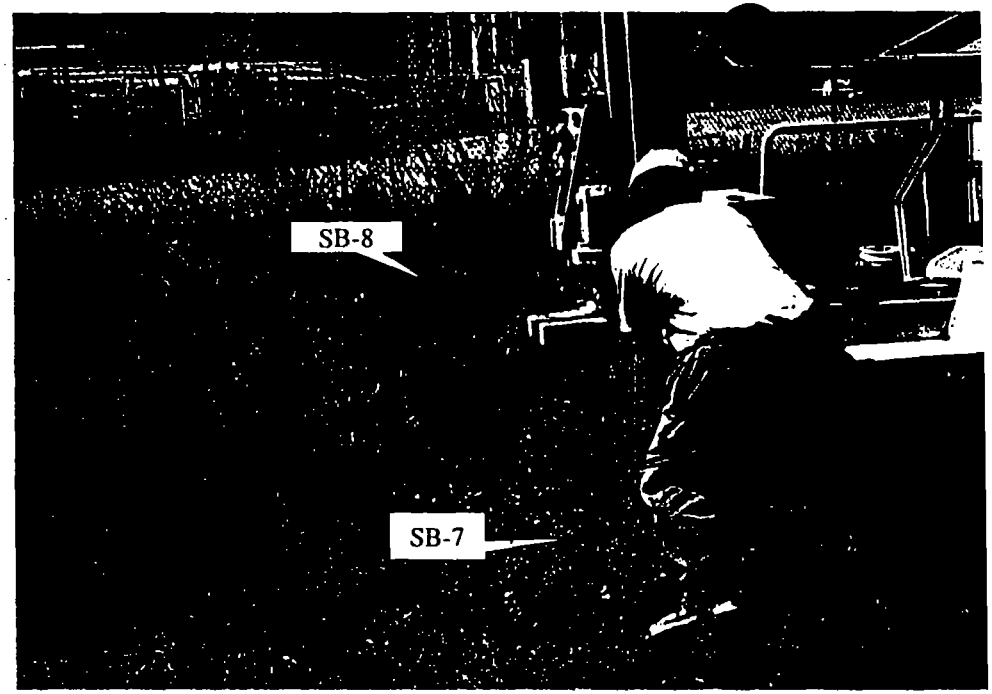


Photo #8 View looking south-southwest of ESP personnel retrieving soil from location "SB-7". Location "SB-8" is in the background.

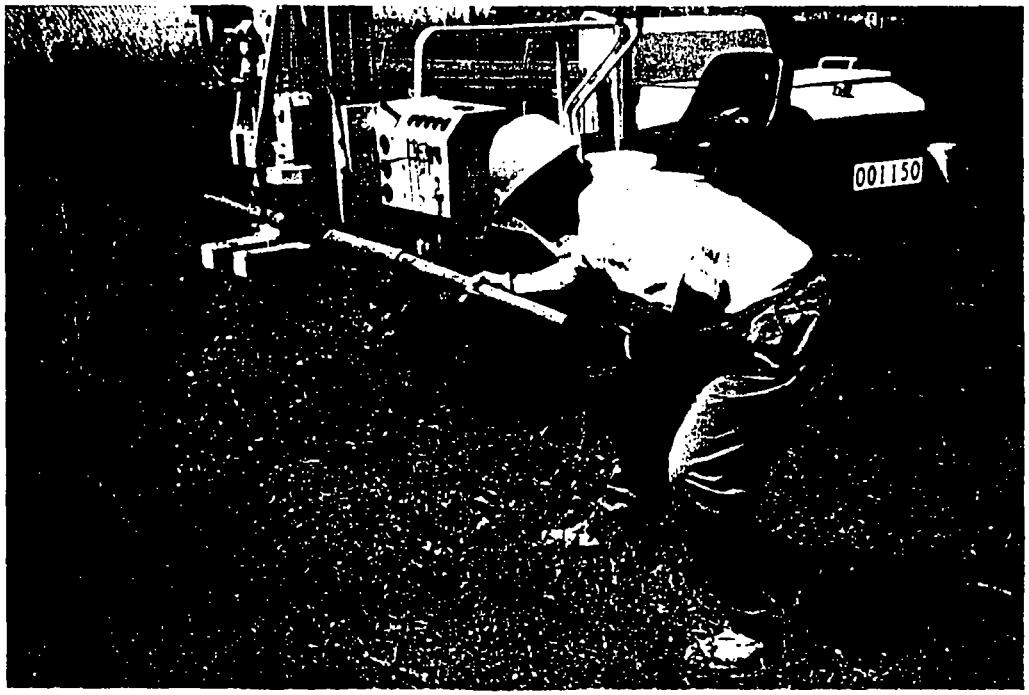


Photo #9 View looking west of ESP personnel retrieving soil from location "SB-8".

Mexico FMGP
Mexico , Missouri
PA/RSE
REFERENCE 16

STATE OF MISSOURI
Mel Carnahan, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGY AND LAND SURVEY
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MEMORANDUM

8-31-00

DATE: August 31, 2000

TO: Kimberlee Foster, Environmental Specialist
Hazardous Waste Program, DEQ

FROM: William W. Little, Geologist
Geological Survey Program, DGLS

SUBJECT: Geologic Summary for the area surrounding the Mexico FMGP (Audrain County), MO PASI site

LOCATION: NW ¼, NW ¼, SE ¼, Section 26, T. 51 N., R. 9 W., Mexico West 7.5 Minute Quadrangle, Audrain County, Missouri
39° 10' 12" North latitude and 91° 92' 40" West longitude

SITE LOCATION AND PHYSIOGRAPHIC SETTING

The Mexico FMGP site is bordered by Western Street on the west, Olive Street on the east, High Street to the south and the Norfolk and Western railroad on the north in the city of Mexico, Missouri. The site lies within the NW ¼, NW ¼, SE ¼, of Section 26, Township 51 North, Range 9 West. Approximate map coordinates for the site are 39° 10' 12" north latitude and 91° 92' 40" west longitude. Elevation is approximately 805 feet above mean sea level.

The site lies within the Dissected Till Plains Region of the Central Lowlands Physiographic Province (Fenneman, 1938; Stohr et al., 1981). This area consists mostly of gently rolling hills with local relief of less than 100 feet (USGS 1972a, 1972b, 1972c, 1972d). The town of Mexico is situated at the center of a broad, nearly flat upland area.

GROUNDWATER PATHWAY

Stratigraphic Units

Following is a summary of the stratigraphic units which are potentially affected by groundwater flow from the Mexico FMGP site. The stratigraphy and hydrology of each unit is summarized in Table 1.

Keswick Soil Series: The USDA soil survey for Audrain County (Young and Geller, 1995) assigns uppermost surficial deposits immediately beneath the site to the Keswick Soil Series. These soils can be up to ten feet in thickness and are composed primarily of silt loam developed in Pleistocene loess deposits. The soils are moderately well-drained with low permeability (Price, 1989; Reiff, 1989, Young and Geller, 1995).

Glacial deposits: The Keswick Soil Series is typically underlain by either loess or till (Young and Geller, 1995). In some localities, a paleosol is found between glacial deposits and the modern soil (Emmett and Imes, 1984). Loess deposits are well-sorted and made up of silt and clay (Site Visit, July 26, 2000). Till is highly variable in composition and can be composed of clay, silt, sand, or gravel. Paleosols are discontinuous and are poorly-developed with compositions similar to the material upon which they formed (Emmett and Imes, 1984; Young and Geller, 1995).

Pennsylvanian units: Pennsylvanian-age deposits include the only bedrock units exposed at the surface in the Mexico area. Outcrops are limited mostly to shallow roadside ditches and stream bottoms; however, a few good exposures of the highest Pennsylvanian strata are present in the walls of mined clay pits. These exposures consist mostly of interbedded limestones and shales from the Cherokee Group. Well logs for the area show that sandstone and coal beds are also common and indicate a total thickness of about 30 feet for Cherokee Group deposits. At the base of the Pennsylvanian are isolated pockets of refractory clays which make up the Cheltenham Formation (McQueen, 1943). These can be up to 55 feet in thickness and are believed to have been deposited within depressions developed over the upper surface of the Burlington-Keokuk Limestone (McQueen, 1943). Lateral groundwater flow is probably small and restricted to the upper surfaces of sandstone and limestone beds. Vertical movement along fractures is slow but apparently of sufficient quantity to recharge the underlying aquifers (Emmett and Imes, 1984; Imes, 1985).

Burlington-Keokuk Limestone: The Burlington and Keokuk Limestones are lithologically similar and are undifferentiated in published reports for this region (McQueen, 1943; Emmett and Imes, 1984; Imes, 1985; Thompson, 1995). These units consist primarily of medium- to coarsely-crystalline crinoidal limestone and are approximately 150 feet in thickness (McQueen, 1943; Thompson, 1995; MDNR/DGLS well log files). Cherty

zones one to ten feet thick are scattered throughout the units and shale beds can be found in the upper portion. According to Emmett and Imes (1984), these units are extensively fractured and contain a well-developed network of solution channels, which leads to high porosity and permeability. The cherty horizons can act locally as a partial barrier to vertical water movement.

Chouteau Group: Approximately 120 feet of finely-crystalline argillaceous limestone and cherty limestone containing abundant invertebrate fossils and common shale interbeds make up the undifferentiated Chouteau Group (McQueen, 1943; Thompson, 1995; MDNR/DGLS well log files). Emmett and Imes (1984) indicate that the Chouteau Group is fractured and contains solution channels, but not to the extent of the overlying Burlington-Keokuk Limestone.

Cedar Valley Limestone: The Cedar Valley Limestone is around 90 feet in thickness and composed of finely- to coarsely-crystalline limestone with interbedded sandstone and, occasionally, shale beds (McQueen, 1943; MDNR/DGLS well log files).

Joachim Dolomite: The Joachim Dolomite consists of about 15 feet of argillaceous dolomite with interbedded shale and sandstone beds in the basal part (McQueen, 1943; Thompson, 1995; MDNR/DGLS well log files). No information was found pertaining to porosity and permeability characteristics.

St. Peter Sandstone: The St. Peter Sandstone is a well-sorted and well-rounded, fine- to medium-grained, friable quartz sandstone approximately 95 feet in thickness (McQueen, 1943; Thompson, 1995; MDNR/DGLS well log files). The friable nature of the formation gives it a high porosity and permeability (Thompson, 1995).

Everton Formation: The Everton Formation comprises a 30-foot thick interval of interbedded dolomite, sandstone, and shale with low porosity and low to moderate vertical permeability related to fracturing (Emmett and Imes, 1984).

Jefferson City – Cotter Dolomite: The Jefferson City Dolomite is about 150 feet and the Cotter Dolomite approximately 250 feet in thickness. These units are lithologically similar and can be difficult to differentiate in drill cores (McQueen, 1943). The primary composition is medium- to finely crystalline dolomite with interbedded chert, sandstone, conglomerate, and shale beds (McQueen, 1943, Thompson, 1995, MDNR/DGLS well log files). Where exposed in other parts of the state, these units can contain abundant vertical fractures and significant bedding plane solution, leading to a high porosity and permeability. In some instances, thick intervals of vuggy dolomite have been observed. The chert, shale, and sandstone beds can act locally as barriers to vertical water flow.

Roubidoux Formation: The Roubidoux Formation is 105 feet thick and composed of interbedded dolomite, sandstone, chert, and shale (Emmett and Imes, 1984; Thompson, 1995; MDNR/DGLS well log files). Based on observations from other parts of the state, permeability is moderate to high both vertically and laterally due to fracturing and bedding plane solution. Sandstones are moderately- to poorly-cemented and contain significant intergranular porosity and permeability. Chert beds can be vuggy or structureless. Vuggy chert beds show a high porosity and permeability; whereas, the massive beds can act as local barriers to vertical groundwater flow.

Gasconade Dolomite: The Gasconade Dolomite comprises a 205-foot thick interval of interbedded dolomite, cherty dolomite, chert, and sandstone (Emmett and Imes 1984; Thompson, 1995; MDNR/DGLS well log files). The Gunter Sandstone Member at the base exhibits high intergranular porosity and permeability (Howe et al., 1972). Exposures elsewhere in the state show intervals within the Gasconade that are vuggy or contain well-developed bedding plane solution.

Eminence Dolomite: The Eminence Dolomite is approximately 90 feet thick and consists of massive-bedded, medium-grained dolomite with 15 feet of sandstone and sandy dolomite at the base (Emmett and Imes, 1984; Thompson, 1985; MDNR/DGLS well log files). Well-developed solution channels lead to high porosity (Howe et al., 1972).

Potosi Dolomite: The Potosi Dolomite is 45 feet thick in the Mexico area and is made up of massive-bedded, medium-grained dolomite with high porosity and permeability due to well-developed solution channels (Howe et al., 1972; Thompson, 1995).

Derby-Doerun Dolomite: The Derby Doerun Dolomite is 325 feet thick and composed primarily of silty dolomite with dolomitic siltstone in the lower 45 feet (Howe et al., 1972; Thompson, 1995; MDNR/DGLS well log files). No information was found pertaining to local porosity and permeability characteristics.

Davis Formation: The Davis Formation is 160 feet thick and made up of interbedded shale, siltstone, fine-grained sandstone, dolomite, and conglomerate (Howe et al., 1972; Thompson, 1995; MDNR/DGLS well log files). No information was found pertaining to local porosity and permeability characteristics; however, due to a high shale content, the Davis Formation is generally considered as an aquitard (Peter Price, personal communication, 2000).

Bonneterre Formation: The Bonneterre Formation is 325 feet thick and composed mostly of dolomitic limestone. Shaly to silty dolomite and siltstone beds are common in the upper part of the formation (Howe et al., 1972; MDNR/DGLS well log files). No information was found pertaining to local porosity and permeability characteristics.

Lamotte Sandstone: The Lamotte Sandstone is 245 feet thick and consists mostly of medium- to coarse-grained sandstone with scattered pebbly zones (Howe et al., 1972; MDNR/DGLS well log files).

Precambrian units:

Igneous and metamorphic rocks of Precambrian age make up the basal confining unit for the Cambrian-Ordovician Aquifer (Emmett and Imes, 1984).

Structural Features

Bedrock structure is largely masked in the Mexico area by a relatively thick mantle of Quaternary glacial material; therefore, structural interpretations are based on well log data, scattered outcrops along stream cuts, and man-made excavations. This part of Missouri is dominated by broad, large-scale anticlines and synclines with mostly northwest-southeast orientations and very gentle dips (McQueen, 1943; Searight, 1959; McCracken, 1971). Local topography suggests that the strata in this area are nearly flat-lying (Emmett and Imes, 1984; Site Visit 7/26/00). Mexico is located between the Lincoln Fold to the northeast and a structural high formed by the College Mound-Bucklin, Davis Creek, and Auxvasse Creek Anticlines to the southwest (McCracken, 1971). The site itself is in an area that forms part of a trend associated with the Macon-Sullivan Trough and Mineola Structure (McCracken, 1971). A local, anomalous structure, the Mexico Anticline, trends northeast-southwest and runs directly beneath the center of the town of Mexico (McQueen, 1943; McCracken, 1971). This appears to be a small scale feature that has been superimposed on the larger structure. A dip of 2^0 to the southeast was measured in a clay pit near the crest of the anticline just northeast of the town (Site visit 7/26/00). No faulting has been reported in the region.

GROUNDWATER PATHWAY

The Division of Geology and Land Survey records 10 community public wells, 8 noncommunity public wells, 9 industrial high capacity wells (possibly for irrigation), and 27 private wells within the four-mile target distance from the site (see Figure 1 and Table 2 for specific well data and locations). Drilling dates extend back to 1905 with only a few wells having been drilled in recent years, suggesting that some of these might not be active. Several wells are located in the immediate vicinity of the site (Fig. 1).

Two major aquifers supply water to the Mexico area. The shallower aquifer is referred to as the Mississippian Aquifer by Imes (1985) because it is almost wholly contained within Mississippian-age deposits from the Burlington-Keokuk Limestone and Chouteau Group (Emmett and Imes, 1984). It ranges from 50 to 280 feet in thickness, and, where

overlain by thicker accumulations of Pennsylvanian and Quaternary deposits, it is considered to be confined. Near stream beds it can show signs of artesian-type flow (Emmett and Imes, 1984). Average groundwater elevation for the Mississippian aquifer appears to be controlled by the level of local creeks (Price, 1989; Reiff, 1989), and depths to aquifer range from a few feet in flood plains to 150 feet on hill tops (Emmett and Imes, 1984; MDNR/DGLS well log files). Recharge to the Mississippian aquifer is from the downward percolation of surface water through overlying Pennsylvanian strata and Quaternary glacial deposits (Emmett and Imes, 1984).

The deeper aquifer has been named the Cambrian-Ordovician Aquifer (Imes, 1985) due to its occurrence within strata of those ages. It is confined and averages 1300 feet in thickness. Yields within this aquifer increase with depth, with the principal producing units being (in order of importance): the St. Peter Sandstone, Roubidoux Formation, Gasconade Dolomite, Eminence Dolomite, and Potosi Dolomite (Emmett and Imes, 1984). Elevation of the Cambrian-Ordovician aquifer varies seasonally from around 475 feet in the spring to approximately 400 feet in the fall (Emmett and Imes, 1984). The lowering of the water level during summer months is believed to occur in response to irrigation pumping (Emmett and Imes, 1984). The higher Mississippian Aquifer is not accessed for irrigation purposes and does not show a seasonal fluctuation. Water in the Cambrian-Ordovician Aquifer is derived from leakage of the Mississippian Aquifer through intervening Devonian units (Emmett and Imes, 1984). Pumping in Mexico has changed direction of flow for this aquifer. During the early 1900's, movement was primarily to the southeast, passing underneath the town of Mexico (Emmett and Imes, 1984). The water table beneath Mexico has since been lowered by more than 200 feet, and movement today is toward a cone of depression centered directly beneath the town of Mexico (Emmett and Imes, 1984).

Wells in the target area yield between 3 and 20 gallons of water per minute for the Mississippian Aquifer and 3 to 1200 gallons per minute for the deeper Cambrian-Ordovician Aquifer (MDNR/DGLS well log records). The Mississippian Aquifer services mostly older domestic wells; whereas, public water supply and irrigation wells draw from the deeper Cambrian-Ordovician system. Some of the wells completed in the Cambrian-Ordovician Aquifer are also open to the Mississippian Aquifer. Most of the newer stock and domestic wells are completed in the St. Peter Sandstone or , sometimes, the Jefferson City-Cotter Dolomite of this deeper aquifer. Some of the older public supply wells draw primarily from the St. Peter Sandstone. The City of Mexico is the largest user of water in the area and has three wells completed to the Eminence and Gasconade Dolomites. In total, Mexico has four municipal wells serving over 14,000 residents (Gann et al., 1971). Vertical and lateral hydraulic conductivities were obtained from Emmett and Imes (1984) for each of the hydrogeologic units discussed in this report and are recorded in table 1.

SURFACE WATER PATHWAY

The surface of the Mexico FMGP site slopes to the south, and nearly all precipitation that falls on the site exits the southern boundary and flows onto High Street. Once on High Street, water follows the gutter to the west until it encounters Western Street. It then moves southward for a short distance and enters a storm drain. The storm drain carries the flow westward beneath Western Street, where, judging from the presence of additional storm drains and manhole covers, the flow turns to the north and moves underground adjacent to Muldrow Street. It then enters an unnamed perennial tributary to the South Fork of the Salt River on the northeast side of the intersection of Highway 22 and Western Street. The South Fork of the Salt River flows northward and drains into Clarence Cannon Reservoir near the town of Santa Fe. The PPE could be located as close to the site as where the storm drain intersects Muldrow Street. Because of underground movement within the storm drain system, the first visible perennial flow is at the intersection of Highway 22 and Western Street. The 15-mile target limit is located along the South Fork of the Salt River in the NW 1/4, SW 1/4, SE 1/4 of Section 18, Township 52 North, Range 8 West, immediately west of a grave shown on the Santa Fe, Missouri 7.5 Minute topographic map (USGS, 1972e).

Surface Water Targets

During a site visit (July 26, 2000), most of the smaller creeks within the target area contained a small amount of standing water and larger streams were actively flowing, suggesting gaining stream conditions. St. Ivany (1983) and Reiff (1989) also believed the streams to be gaining based on the low permeability of surficial materials. Of the 38 inches of average annual precipitation for this area, about 8.5 inches typically end up as surface runoff (Gann et al., 1971; MDNR, 1986; Vandike, 1995; Young and Geller, 1995). Numerous ponds and reservoirs, some large, are present within the target area. These appear to be used primarily for agricultural purposes; although, evidence of limited recreational use, such as boating and swimming, is also present. No surface water intakes have been identified within 15 miles of the site (MDNR, 1986, 1997).

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WWL/lh

Table 2:
Well Data for Mexico FMGP (Audrain County), Missouri

Source	Well ID	Depth	CSG	Q1	Q2	Q3	SEC	TWN	RNG	Elev	SWL	Date	Use	Owner	Aquifer	Yield
.25 mile																
Logmain	004315	920		NE	SW	C	26	51N	9W	798	160	1937	Private Well	Mexico Consolidated Water Corp	Cambrian/Ordovician	38
Logmain	001828	1173		SW	NE	NW	26	51N	9W	803		1914	Private Well	Pease, C. W.	Cambrian/Ordovician	
Logmain	002580	1700		NW	SE	SE	26	51N	9W	780		1932	Private Well	Weigel, R. C.	Cambrian/Ordovician	
Logmain	010553	1452		NE	SW	SW	26	51N	9W	805		1948	Private Well	Sparks, John C.	Cambrian/Ordovician	402
PDWP	40433	1150	400	NW	NW	SE	26	51N	9W		90	1938	Community Public Well	City of Mexico	Cambrian/Ordovician	650
Total number of wells located .25 mile from Mexico FMGP: 5																
.5 mile																
Logmain	001799	987		NW	SW	SE	26	51N	9W	807		1906	Private Well	Morgan, Bill	Cambrian/Ordovician	
Logmain	003077	1209		NW	SW	SE	26	51N	9W	798	154	1924	Private Well	Smiley, Raymond	Cambrian/Ordovician	600
PDWP	40431	1400	401	SE	SW	NW	26	51N	9W		110	1948	Community Public Well	City of Mexico	Cambrian/Ordovician	500
Total number of wells located .5 mile from Mexico FMGP: 3																
1 mile																
Logmain	011254	140			NE	C	35	50N	8W	819	18	1949	Community Public Well	Baker Packing Co.	Mississippian	15
Logmain	017842	1500		NE	SW	SW	27	51N	9W	833	230	1959	Private Well	Unkown	Cambrian/Ordovician	876
Logmain	006226	235		SE	SE	SE	22	50N	8W	796	90	1940	Industrial High Capacity	Dixie Inn	Mississippian	3
Logmain	002777	882		NW	NE	NW	26	51N	9W	762		1933	Private Well	Mexico Power & Light Co.	Cambrian/Ordovician	72
PDWP	40432	1200	410	NW	NE	SW	35	51N	9W		110	1947	Community Public Well	City of Mexico	Cambrian/Ordovician	185
PDWP	17842	1500	400	NE	SW	SW	27	51N	9W		105	1958	Community Public Well	City of Mexico	Cambrian/Ordovician	600
Total number of wells located 1 mile from Mexico FMGP: 6																

Source	Well ID	Depth	GSG	Q1	Q2	Q3	SEC	TWN	RNG	Elev	SWL	Date	Use	Owner	Aquifer	Yield
2 miles																
Logmain	002916	390		SW	SW	SE	30	51N	9W	780	130	1934	Industrial High Capacity	Greene, A. P.	Mississippian	20
Logmain	006039	800		SE	NE	NE	35	51N	9W	805	184	1940	Private Well	Mexico Light and Water Co.	Cambrian/Ordovician	43
Logmain	019778	725		SW	SW	NE	22	51N	9W	771	200	1960	Private Well	Mexico Light and Power Co.	Cambrian/Ordovician	30
Logmain	007965	408		NW	NE	NE	34	51N	9W	824		1942	Industrial High Capacity	Hacker, O. H.	Cambrian/Ordovician	
Logmain	011465	230		SE	NE	NW	22	50N	8W	788	95	1950	Industrial High Capacity	Country Club	Mississippian	4
Logmain	021129	195		SE	NW	SW	28	50N	8W	792	50		Community Public Well	City of Mexico	Mississippian	15
Logmain	011172	510					30	51N	9W			1949	Noncommunity Public Well	Johnson, J. T.	Cambrian/Ordovician	0010
Logmain	011466	710		SW	SW	NW	30	51N	9W	777	150	1949	Private Well	Mexico Flying Service	Cambrian/Ordovician	15
Logmain	002979	302		SE	SE	SE	25	51N	9W	763		1934	Industrial High Capacity	Green, A. P.	Mississippian	14
Logmain	016726	950		SW	SE	NE	30	51N	9W	808	22	1957	Private Well	Missour Livestock Market	Cambrian/Ordovician	30
Logmain	022281	890		SE	NE	NW	28	51N	9W	811			Private Well	Mexico Refractories Co.	Cambrian/Ordovician	
Logmain	001524	1010		SW	NE	NW	35	51N	9W	789		1996	Private Well	Municipal Golf Course	Cambrian/Ordovician	
Logmain	007081	1100		SE	NE	NE	35	51N	9W	802	167	1941	Private Well	Northwest Insurance Co.	Cambrian/Ordovician	150
Logmain	003523	1195		NE	SW	SW	25	51N	9W	772	105	1935	Private Well	Shaw, W. A.	Cambrian/Ordovician	80
Logmain	010000	1279		SW	NE	NE	35	51N	9W	799	165	1948	Private Well	Smith, James	Cambrian/Ordovician	400
PDWP	28615	1509		SW	SW	SW	34	51N	9W		90	1984	Community Public Well	City of Mexico	Cambrian/Ordovician	850
Total number of wells located 2 miles from Mexico FMGP: 16																
3 miles																
Logmain	010160	200		SE	NE	NW	11	50N	8W	758		1948	Community Public Well	Coca Cola Bottling Co.	Mississippian	
Logmain	006812	600		NW	SW	NW	20	51N	9W	805	205	1941	Noncommunity Public Well	Mexico Country Club	Cambrian/Ordovician	5
Logmain	012573	560		SE	NE	SW	20	51N	9W	825		1954	Noncommunity Public Well	Llewellyn-Flat Rock PP	Cambrian/Ordovician	7
Logmain	004003	540		SE	NW	SE	4	51N	9W	842	250	1936	Noncommunity Public Well	Kaiser Refractories	Cambrian/Ordovician	14
Logmain	004118	490		SW	SW	SW	3	51N	9W	828	90	1936	Noncommunity Public Well	Izedec Ice & Cold Storage	Cambrian/Ordovician	15

Source	Well ID	Depth	CSG	Q1	Q2	Q3	SEC	TWN	RNG	Elev	SWL	Date	Use	Owner	Aquifer	Yield
Logmain	000237	480		SW	SE	C	15	51N	9W	759	55	1905	Irrigation Well	Ingram, Robert R..	Cambrian/Ordovician	3
Logmain	028373	1165					13	51N	9W		230	1980	Private Well	Paul Lackland Farm	Cambrian/Ordovician	1200
Logmain	028615	1500		SW	SW	SW	34	51N	9W	835	350	1984	Private Well	Wanneman & Sons	Cambrian/Ordovician	996
Logmain	021090	1150		NE	NW	N2	31	51N	9W		230	1962	Private Well	Owens, Bob	Cambrian/Ordovician	30
Logmain	001798	200					21	50N	8W				Industrial High Capacity	Country Club	Mississippian	
Logmain	006071	415		SE	SW	SW	11	51N	9W	780		1940	Industrial High Capacity	Henry Finch Farm	Cambrian/Ordovician	
Logmain	000236	245		NW	NW	SW	14	51N	9W	792	50	1912	Industrial High Capacity	Finch, Henry	Mississippian	7
Logmain	006452	940		NE	NE	SW	13	51N	9W	795	145	1940	Private Well	Missouri Power & Light	Cambrian/Ordovician	12
Logmain	021302	825		NW	SW	NW	21	51N	9W	821	260	1927	Private Well	Missouri Military Academy	Cambrian/Ordovician	20
Logmain	008975	850			SW	C	19	51N	9W	796	175	1946	Private Well	Mexico Power Co.	Cambrian/Ordovician	10
Logmain	014385	445		SE	NW	SE	2	51N	9W	806	60	1955	Irrigation Well	Hoffman, E. J.	Cambrian/Ordovician	6
PDWP	40435	1165	650	NW	SE	NE	13	51N	9W		230	1979	Noncommunity Public Well	National Refractories	Cambrian/Ordovician	30

Total number of wells located 3 miles from Mexico FMGP: 17

4 miles

Logmain	027784	1490		NW	SW	SW	5	51N	9W	852	272	1974	Private Well	Stewart, R. G.	Cambrian/Ordovician	907
Logmain	003999	240		NW	NE	NW	14	51N	9W	839	150	1936	Industrial High Capacity	Dowell, Taylor	Mississippian	14
Logmain	010011	555		NE	SE	NW	32	51N	9W	816		1948	Noncommunity Public Well	Lewis, Lon J.	Cambrian/Ordovician	
Logmain	021999	535		SE	NW	NE	14	51N	9W	824	200		Noncommunity Public Well	Johnson, Price	Cambrian/Ordovician	20
Logmain	011042	418						51N	9W			1949	Private Well	Wonneman, F. A.	Cambrian/Ordovician	
Logmain	026061	545		NW	NW	NE	14	50N	8W	832	170	1968	Community Public Well	Affutt, J. J.	Cambrian/Ordovician	50
Logmain	016749	595		NW	SE	NW	14	50N	8W	848	150	1949	Community Public Well	Audrain County Farm	Cambrian/Ordovician	15
Logmain	001801	162					32	50N	8W				Community Public Well	Carter Farm	Pennsylvanian	
Logmain	006933	349		SE	E2	C	9	51N	9W	805	150	1941	Industrial High Capacity	Green, R. S.	Mississippian	10
Logmain	027783	1452		NW	SW	SE	5	51N	9W	849	275	1974	Private Well	Sparks, John C.	Cambrian/Ordovician	901
WIMS	0085420A	580	206	SE	NW	NE	20	51N	8W	7800	180	1991		Clement	Cambrian/Ordovician	35

Source	Well ID	Depth	CSG	Q1	Q2	Q3	SEC	TWN	RNG	Elev	SWL	Date	Use	Owner	Aquifer	Yield
WIMS	0009495A	620	168		SE	SE	19	51N	9W		300	1988	Private well	Luce	Cambrian/Ordovician	35
WIMS	0027369A	705	184	SW	NE		5	50N	8W		250	1989		Daniels	Cambrian/Ordovician	45

Total number of wells located 4 miles from Mexico FMGP: 13

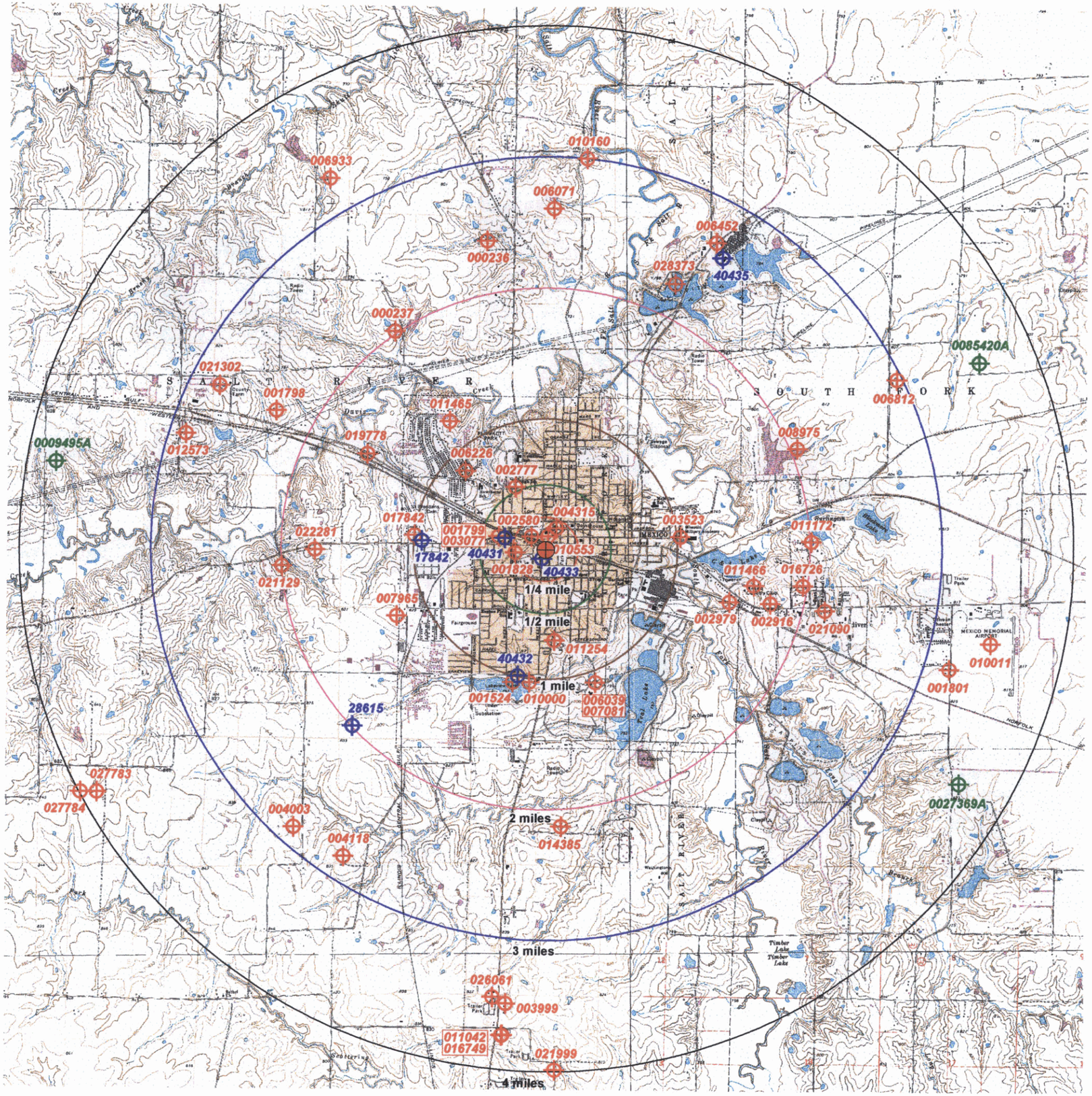
Table 1: Aquifer Stratigraphy and Hydrology

System	Stratigraphic Unit	Thickness (feet)	Lithology	Nature of Porosity and Permeability	Hydraulic Conductivity (feet/second)	Average Yields (GPM)	Hydrologic Unit
Quaternary	Keswick Series	0 - 10	Silt loam	Low	Vertical: 1.3×10^{-10}	Probably none	Unconsolidated Aquifer
	Loess	50	Clay and silt				
	Glacial drift		Clay, silt, sand, and gravel	Highly variable dependent on local lithology		Variable	
Pennsylvanian	Cherokee Group undifferentiated	30	Mostly limestone with interbedded shale and coal	Highly variable dependent on lithology		Low, restricted mostly to thin sandstones	Pennsylvanian Confining Unit
	Cheltenham Formation	0 - 55	Interbedded sandstone, shale, coal, and limestone				
Mississippian	Burlington-Keokuk Limestone	150	Limestone, chert, and shale	Highly fractured and well-developed solution channels.	1.0×10^{-4} - 1.5×10^{-5}	Less than 15	Mississippian Aquifer
	Chouteau Group undifferentiated	120					
Devonian	Cedar Valley Limestone	90	Limestone, some sandstone and shale	Vertical leakage to Cambrian-Ordovician Aquifer	Vertical: 7.7×10^{-10}	None	Devonian Confining Unit
Ordovician	Joachim Dolomite	15	Dolomite		Lateral: 6.0×10^{-4} - 1.0×10^{-5}	Insignificant	Cambrian-Ordovician Aquifer
	St. Peter Sandstone	95	Sandstone	Moderate to high intergranular		Up to 25	
	Everton Formation	30	Interbedded dolomite, sandstone, and shale	Low to moderate vertical permeability related to fracturing, low porosity		Insignificant	
	Powell Dolomite	0	Interbedded dolomite, chert, and shale	Moderate to high laterally along bedding surfaces but restricted vertically because of thin shale beds		Minor	
	Cotter Dolomite	240	Interbedded dolomite, sandstone, chert, and shale				
	Jefferson City Dolomite	150				Up to 25	
	Roubidoux Formation	105	Interbedded dolomite, sandstone, chert, and shale	Moderate to high vertically and laterally due to fracturing and bedding plane dissolution and to moderate to poor cementation in sandstones		50 - 200	
	Gasconade Dolomite	205	Interbedded dolomite, chert, and sandstone	High intergranular porosity and permeability in Gunter Sandstone Member at base		300 - 500	
Cambrian	Eminence Dolomite	90	Massive, medium-grained dolomite	High because of well developed solution channels		25 - 700	
	Potosi Dolomite	45	Massive, medium-grained dolomite	High because of well developed solution channels		Up to 400	
	Derby-Doerun Dolomite	325	Silty dolomite and dolomitic siltstone	Low permeability		Not penetrated	
	Davis Formation	160	Interbedded dolomite, shale, siltstone, and limestone				
	Bonneterre Dolomite	325	Interbedded limestone, dolomite, and siltstone				
	Lamotte Sandstone	245	Medium to coarse sandstone				
Precambrian	Undifferentiated	unknown	Igneous and metamorphic				Precambrian Confining Unit

Data is from McQueen (1943); Searight (1969); Gann et al. (1971); Howe et al. (1972); Emmett and Imes (1984); Young and Geller (1995); MDNR/DGLS well log records, and site visit (7/26/00).

Figure 1:

Water Well Locations for the Area Surrounding Mexico FMGP (Audrain County), Missouri



Legend

- Site location
- Certified well from the Well Information Management System (WIMS) MDNR/DGLS Wellhead Protection Section
  Wells drilled prior to 1987 did not require DGLS certification
- Well from MDNR/DGLS Sample Well-log Library (Logmain)
- Well from MDNR/DEQ Public Drinking Water Program (PDWP)

Well locations were autoplotted from ArcView shapefiles and most are believed to be accurate to within 1/16 of a mile.

Distance from the Mexico FMGP site:

- 0.25 mile
- 0.5 mile
- 1.0 mile
- 2.0 miles
- 3.0 miles
- 4.0 miles

N W E S

1 0 1 2 Miles

Scale 1:50,000

Data plotted on the following USGS 7.5 minute series quadrangles:

Auxvasse, Missouri
Mexico East, Missouri
Mexico Southeast, Missouri
Mexico West, Missouri

Bill Little

09/11/2000 03:18 PM

To: Kimberlee Foster/HWP/DEQ/MODNR@MODNR
cc:
Subject: Re: Mexico FMGP inquiry

Mexico FMGP
Mexico , Missouri
PA/RSE
REFERENCE 17

Kimberlee:

Sorry for the confusion.

Because the streams in the Mexico area are gaining in nature, the water table theoretically corresponds to the topography, flowing from high areas toward the creeks. Therefore, the depth to water table ranges from zero along creek beds to around 150 feet beneath the highest hills. However, this is a little misleading. The term "water table" applies only to unconfined aquifers, where ground water can flow downward somewhat freely until it reaches the elevation at which the rock is saturated (all pore spaces are filled with water). Because of the impervious nature of surficial loess deposits, runoff rates will be high. Water that seeps into the ground can make its way to one of three aquifers.

The shallowest aquifer is contained within glacial deposits that vary greatly in grain size both vertically and laterally. Therefore, water-bearing bodies will consist of isolated "pods" with little or no interconnection. Depending upon the local permeability of the overlying material and elevation of the pod, these can be filled to varying degrees. Very few wells draw water from this aquifer.

The Mississippian Aquifer appears to be confined at some localities and relatively unconfined at others, again depending upon the nature of the immediately overlying materials. Where unconfined, the water table probably somewhat mimicks the topography.

The Cambrian-Ordovician Aquifer is confined and is the most heavily used of the three. Because of heavy usage for irrigation, water levels fluctuate greatly depending upon the time of year. Since recharge is primarily through leakage, when water levels drop in the Cambrian-Ordovician Aquifer, it will most likel also be lowered in the Mississippian Aquifer. Many of the deep wells are open to both the Mississippian and the Cambrian-Ordovician Aquifers, and when water levels drop in the Cambrian-Ordovician, additional water might need to be drawn from the Mississippian to make up the difference.

If you need a simplifed average for the water table, I'd probably say that it ranges from a few feet near creeks to over a hundred feet beneath the higher hills, but in reality, it's going to rise and fall in response to pumping in the lower units and is complicated by the heterogenous characteristics of the surficial deposits.

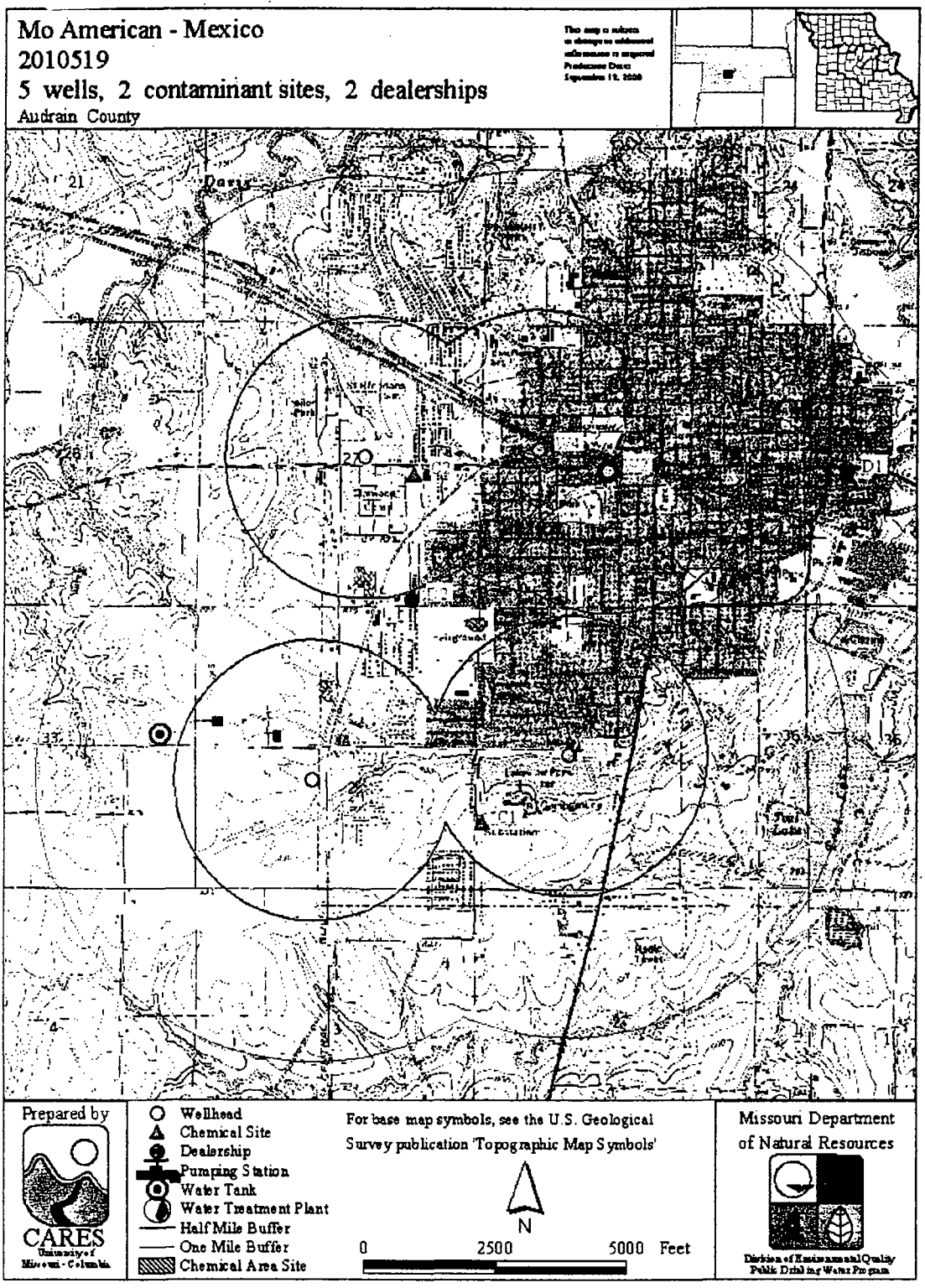
I hope this is of some assistance. If not, or if you need additional information, please let me know.

Bill

By the way, I have begun work on Louisiana; however, I was out all week last week due to illness and have fallen a little behind. I did visit the site a couple of weeks ago. As with all the sites, if you do have, or can aquire, cores of the surficial material, I can give a better description of those units.

Mexico FMGP
Mexico , Missouri
PA/RSE
REFERENCE 18

Mexico FMGP



9/12/00

Mo American - Mexico
2010519
5 wells

The information below represents the data currently associated with the water supply system. The well/intake numbers correspond to the well/intake numbers depicted on the accompanying map. Blank indicates missing data. This table is subject to change as additional information is acquired.
Source: Missouri Department of Natural Resources, Public Drinking Water Program.
Production Date: September 12, 2000

Well Number	W2	W3	W4	W5	W6
Extended PWS #	2010519102	2010519103	2010519104	2010519105	2010519106
Local Well Name	Well #2	Well #3	Well #4	Well #5	Well #6
DGLS Well #	40433	10000	10553	17942	28615
Facility Type	City	City	City	City	City
Status	Active	Active	Active	Active	Active
Latitude	39 10 19.29 N	39 9 26.70 N	39 10 23.40 N	39 10 22.50 N	39 9 22.81 N
Longitude	91 53 17.61 W	91 53 27.71 W	91 53 34.11 W	91 54 16.01 W	91 54 29.31 W
USGS 7.5 Quadrangle	Mexico West	Mexico West	Mexico West	Mexico West	Mexico West
County	Audrain	Audrain	Audrain	Audrain	Audrain
DNR Region	Northeast	Northeast	Northeast	Northeast	Northeast
Date Drilled (year)	1938	1948	1948	1958	1984
Material (C/U)	Consolidated	Consolidated	Consolidated	Consolidated	Consolidated
Yielding Strata					
Total Depth (feet)	1150	1279	1452	1500	1500
Ground Elevation (ft)	791	810	791	764	824
Top Seal					
Bottom Seal					
Casing Depth (feet)	400	410	401	400	542
Casing Size (inches)	16	16	16	16	16
Casing Type	Steel	Steel	Steel	Steel	Steel
Elev. of Casing Top (ft)					
Outer Casing Depth (ft)		40	135		
Outer Casing Size (in)		20	20		
Screen Length (feet)					
Screen Size (inches)					
Static Water Level (ft)	90	110	110	105	350
Well Yield (gpm)	650	185	500	600	850
Head (feet)					
Draw Down (feet)	60	70	45	80	60
Pump Test Date (year)	1986	1982	1989	1993	1989
Pump Type	Vertical Turbine	Vertical Turbine	Vertical Turbine	Vertical Turbine	Vertical Turbine
Pump Manufacturer					
Pump Depth (feet)	450	410	500	530	500
Pump Capacity (gpm)	780	250	600	850	1000
Pump Meter (Y/N)	N	N	N	N	
Standby Power (Y/N)	N	N	N	N	N
VOC Detection (Y/N)	N	N	N	N	N
Nitrate Detection (Y/N)	N	N	N	N	N
Chlorination (Y/N)	Y	Y	Y	Y	Y
Filtration (Y/N)	Y	Y	Y	Y	Y
GWUDISW (Y/N)					
State Approved (Y/N)	Y	Y	Y	Y	Y
Surface Drainage					
Date Abandoned					
Date Plugged (year)					
Location Method	GPS	GPS	GPS	GPS	GPS
Method Accuracy (feet)	75	75	75	75	75

Mexico FMGP
Mexico , Missouri
PA/RSE
REFERENCE 19

DEPARTMENT OF NATURAL RESOURCES
Division of Environmental Quality

TELEPHONE OR CONFERENCE RECORD

FILE: Mexico FMGP Superfund Technical File

DATE: September 8, 2000

TELEPHONE:

Incoming ()
Outgoing (X)

CONFERENCE:

Field ( )
Office ( )

SUBJECT: Water Production for the City of Mexico Municipal Water System

PERSONS INVOLVED:

NAME	REPRESENTING
Ms. Kimberlee Foster	DNR/HWP/Superfund
Mr. Doug Sigman	MO-American Water Company Mexico, MO (573) 581-2591

SUMMARY OF CONVERSATION:

On September 8, 2000, I called the Missouri American Water Company to inquire about well usage for the City of Mexico's municipal water system. I spoke with Mr. Doug Sigman, Plant Operator. Mr. Sigman stated that the municipal water supply was made up of a blended well system that currently contained 6 wells. I asked Mr. Sigman to clarify which wells made up the system because the information on the DNR's Public Drinking Water Program's website only listed 5 wells in the system. He then stated that the sixth well was a recent addition to the system, having been added in March of 2000.

I then asked Mr. Sigman about the annual production rates for 1999. He provided me with a list of production rates for each of the five wells that were active in 1999. Mr. Sigman then stated that the total production for the system in 1999 was the sum of all five wells, as they are the only source of intake for the entire system. The table below is a summary of the information provided.

Source	**1999 Production Million gallons**
W2	307
W3	13
W4	50
W5	242
W6	294
Total:	**906**

ACTION TAKEN:

The information obtained from the MO-American Water Company will be used to calculate the total population served by groundwater wells for the Mexico FMGP Preliminary Assessment/ Removal Site Evaluation.

September 11, 2000
Date of Signature

Kimberly D. Foster
Environmental Specialist

KF:cj

Mexico FMGP
Drinking Water Supply Calculations Worksheet
Kimberlee Foster, HWP, DEQ, DNR
8-Sep-00

Mexico FMGP
Mexico , Missouri
PA/RSE
REFERENCE 21

MUNICIPAL:

City of Mexico Water Supply: 5 sources, blended system

Source	Distance from site	1999 Annual (million gal)	1999 % production[1]	Population Served[2]	Sum of Population Within Distance ring
W2	0-1/4 Mile	307	33.89	2283	2283
W4	1/4-1/2 Mile	50	5.52	2283	2283
W3	1/2-1 Mile	13	1.43	2283	
W5	1/2-1 Mile	242	26.71	2283	4566
W6	1-2 Mile	294	32.45	2283	2283
TOTAL:	—	906	100.00	11414	11414

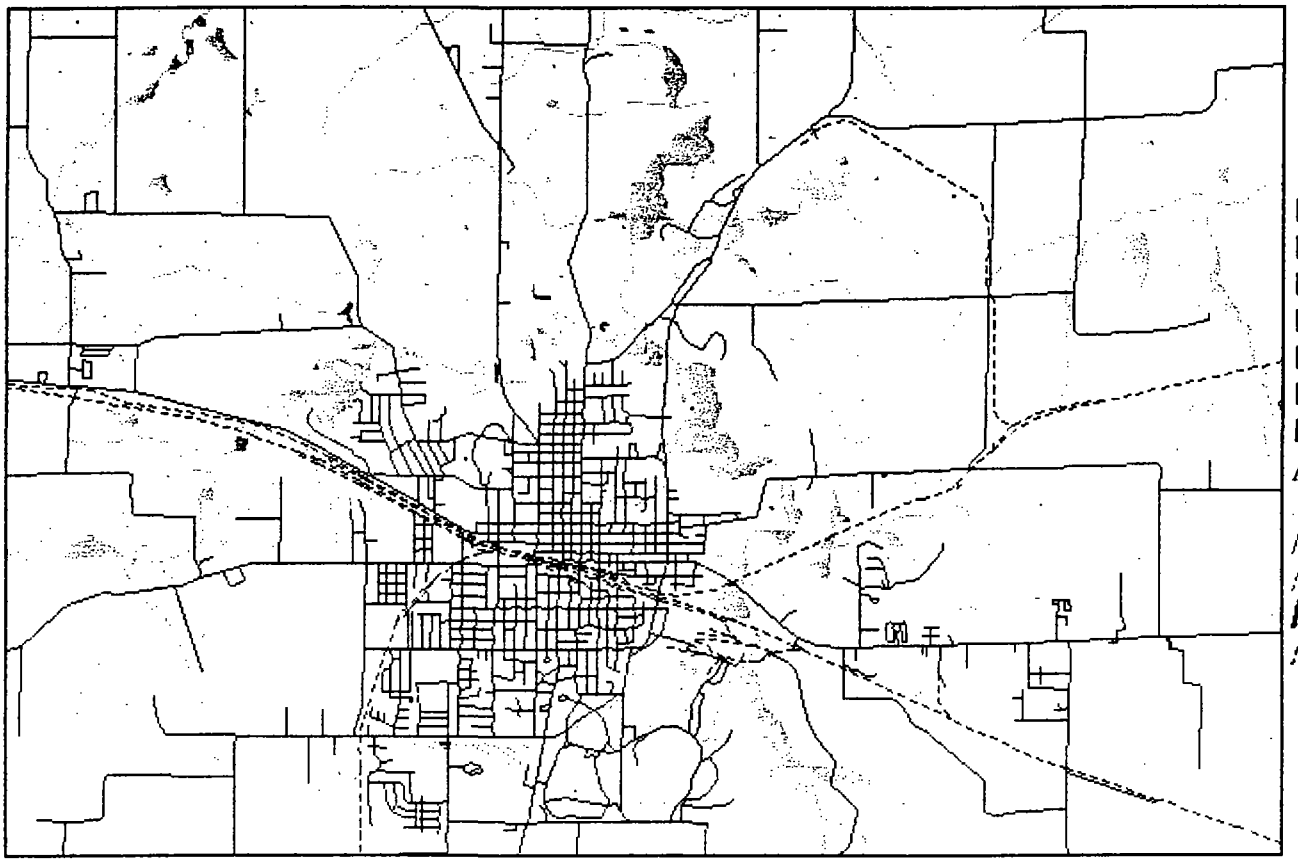
[1] Percent production calculated as follows: [(Annual)/ (Total)] x 100

[2] Because no well supplies greater than 40% of the total production, the population served was distributed equally among the five sources. The population was calculated as follows: (Total population/ total sources)

The total population served by the MO-American-Mexico water system is 11,414 as obtained from the Inventory of Missouri Public Water Systems 1999.

Total Population Served by public drinking water wells within 4 Miles of the site: 11414

Wetland Data Provided by the U.S. Fish and Wildlife Service's National Wetland Inventory



1 0 1 2 3 4 5
km

Mexico FMGP
Mexico , Missouri
PA/RSE
REFERENCE 24

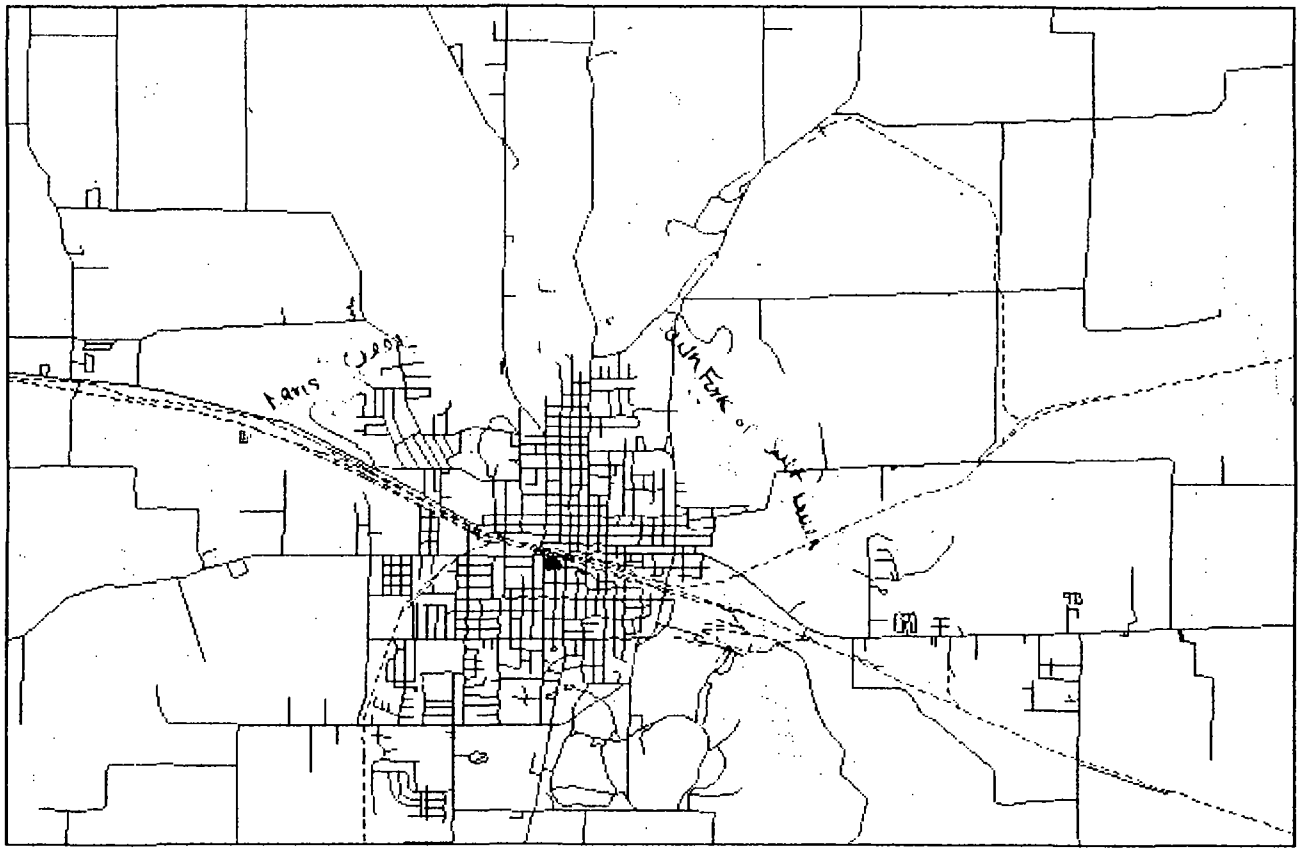
Mexico FMGP

- ☐ L1UB [L] Lacustrine, [1] Limnetic, [UB] Unconsolidated Bottom
- ☒ PEM [P] Palustrine, [EM] Emergent
- ☐ PFO1 [P] Palustrine, [FO] Forested, [1] Broad-Leaved Deciduous
- ☒ PSS1 [P] Palustrine, [SS] Scrub-Shrub, [1] Broad-Leaved Deciduous
- ☐ PUB [P] Palustrine, [UB] Unconsolidated Bottom
- ☐ Upland [U] Upland

Close Window

Mexico FMCA

Wetland Data Provided by the U.S. Fish and Wildlife Service's National Wetland Inventory



- L1UB
- PEM
- PFO1
- PSS1
- PUB
- Upland
- No Data Available
- Streams
- Roads
- Railroad
- States
- Counties

1 0 1 2 3 4 5
km

U.S. FISH & WILDLIFE SERVICE
DEPARTMENT OF THE INTERIOR

Muleshoe Area

- ☐ L1UB [L] Lacustrine, [1] Limnetic, [UB] Unconsolidated Bottom
- ☒ PEM [P] Palustrine, [EM] Emergent
- ☐ PFO1 [P] Palustrine, [FO] Forested, [1] Broad-Leaved Deciduous
- ☒ PSS1 [P] Palustrine, [SS] Scrub-Shrub, [1] Broad-Leaved Deciduous
- ☐ PUB [P] Palustrine, [UB] Unconsolidated Bottom
- ☐ Upland [U] Upland

Close Window

Mexico FMCP

Heritage database: Results for AUDRAIN county

Common Name	Scientific Name	state rank	global rank	state status	federal status
A BROME	BROMUS LATIGLUMIS	S2S3	G5	-	-
GHOST SHINER Species Info.	NOTROPIS BUCHANANI	S2	G5	-	-
BLACKNOSE SHINER Species Info.	NOTROPIS HETEROLEPIS	S2	G5	-	-
GREATER PRAIRIE-CHICKEN Species Info.	TYMPANUCHUS CUPIDO	S1	G4	E	-
	WET-MESIC BOTTOMLAND FOREST	-	-	-	-

Return to Main Search Page

Mexico FMGP
Mexico , Missouri
PA/RSE
REFERENCE 25

YAHOO! YELLOW PAGES

Yahoo! Mexico, Missouri

Mexico FMGP
PA/RSE
REFERENCE 26

TIRED of

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400 S Muldrow, Mexico MO (Mackinsburg Bank & Trust)

Change Location

Top > Community > Children and Youth > Childcare

1 to 20 of 100

Business Name	Address	City	Phone	Miles*
Almost Home Day Care	409 W Love St	Mexico, MO	(573) 582-0471	0.3
Methodist Preschool	122 E Promenade St	Mexico, MO	(573) 581-8090	0.3
Bright Beginnings Child Care	408 N Jefferson St	Mexico, MO	(573) 581-0900	0.4
Wee Care Daycare	418 E Breckenridge St	Mexico, MO	(573) 581-5800	0.4
Garfield Learning Ctr	502 E Central St	Mexico, MO	(573) 581-0706	0.5
Williams Family Support Ctr	801 E Breckenridge St	Mexico, MO	(573) 581-6806	0.5
Ymca	1127 Adams St	Mexico, MO	(573) 581-1540	0.7
Tammy's Day Care	1109 Gray St	Mexico, MO	(573) 581-0996	0.8
Head Start Child Development	400 Lakeview Rd	Mexico, MO	(573) 581-1066	0.9
Parents As Teachers	650 Harrison St	Auxvasse, MO	(573) 386-2217	11.0
Three Ring Circus Day Care	4989 County Road 260	Auxvasse, MO	(573) 386-5145	12.2
Ark Child Development	309 W Railroad St	Centralia, MO	(573) 682-3861	13.8
Glynda's Kiddie Care	101 Oak Ln	Hallsville, MO	(573) 696-3266	18.3
Jesus' Little Lambs Child Care	102 Chamberlain Dr	Wellsville, MO	(573) 684-8001	18.3
Lynn's Day Care	111 E Hess St	Farber, MO	(573) 249-2205	18.3
Play & Learn Preschool Ctr	214 N Route B	Hallsville, MO	(573) 696-3545	18.4
Betty's Kiddie Kastle	509 E Hudson St	Wellsville, MO	(573) 684-2423	18.8
Bright Beginnings Preschool	207 Glover St	Fulton, MO	(573) 642-2253	20.1
Safe Haven Child Care Ctr	2521 N Bluff St	Fulton, MO	(573) 642-3373	20.4
Fulton Day Care Ctr	1600 Westminster Ave	Fulton, MO	(573) 642-3201	21.1

** Distances are in Miles from 400 S Muldrow, Mexico, MO

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z all

Next Matches

Search by Name or Category (e.g. Hilton, Hotel or Hilton Hotel)

Search Now

YAHOO! YELLOW PAGES

400 S Muldrow, Mexico MO (Mauldrow Bank & Trust)

1 to 20 of 47

Business Name	Address	City	Phone	Miles*
St Brendan's School	620 S Clark St	Mexico, MO	(573) 581-2443	0.2
Ole Country Baptist Church	310 N Wade St	Mexico, MO	(573) 581-3706	0.3
Mexico Public Schools	920 S Jefferson St	Mexico, MO	(573) 581-3773	0.4
Mexico High School	639 N Wade St	Mexico, MO	(573) 581-6405	0.4
Mexico Senior High School	639 N Wade St	Mexico, MO	(573) 581-4296	0.4
Eugene Field Elementary	704 W Boulevard St	Mexico, MO	(573) 581-5268	0.5
Mexico Area Vocational School	905 N Wade St	Mexico, MO	(573) 581-5684	0.6
Mexico Junior High School	1200 W Boulevard St	Mexico, MO	(573) 581-4664	0.6
Hawthorne School	1250 W Curtis St	Mexico, MO	(573) 581-3064	0.7
Mc Millan Elementary School	1101 E Anderson St	Mexico, MO	(573) 581-5029	0.9
Missouri Military Acad Annex	204 N Grand St	Mexico, MO	(573) 581-9993	1.0
Missouri Military Academy	204 N Grand St	Mexico, MO	(573) 581-1776	1.0
Missouri Military Junior Schl	204 N Grand St	Mexico, MO	(573) 581-1777	1.0
Auxvasse Elementary School	650 E Harrison St	Auxvasse, MO	(573) 386-2217	11.0
Community R-Vi School	35063 Highway Bb	Laddonia, MO	(573) 492-6222	12.0
Laddonia Community R-6 Schools	35063 Highway Bb	Laddonia, MO	(573) 373-2331	12.0
Centralia Senior High School	849 S Jefferson St	Centralia, MO	(573) 682-3508	13.3
Centralia Vocational Ag	849 S Jefferson St	Centralia, MO	(573) 682-3512	13.3
Centralia Board Of Education	635 S Jefferson St	Centralia, MO	(573) 682-3561	13.3
Centralia Middle School	110 N Jefferson St	Centralia, MO	(573) 682-2617	13.4

** Distances are in Miles from 400 S Muldrow, Mexico, MO

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z all

Next Matches

Search by Name or Category (e.g. Hilton, Hotel or Hilton Hotel)

Search Now

Mexico FMGP

Mexico FMGP
Mexico , Missouri
PA/RSE
REFERENCE 27

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geocorr3 3.03 Rev. 21Mar2000 / Process: 22804 (OSEDA/UIC, U. of Missouri) - Run Listing of Geographic Correlations

RING	STATE	POP	AFACT
0.25	29	319	1.000
0.50	29	2184	1.000
1.00	29	5608	1.000
2.00	29	3150	1.000
3.00	29	908	1.000
4.00	29	1233	1.000

13,402 total

Coordinates:
39.169583 N latitude
91.88[illegible] W Longitude

KDS 9/5/00